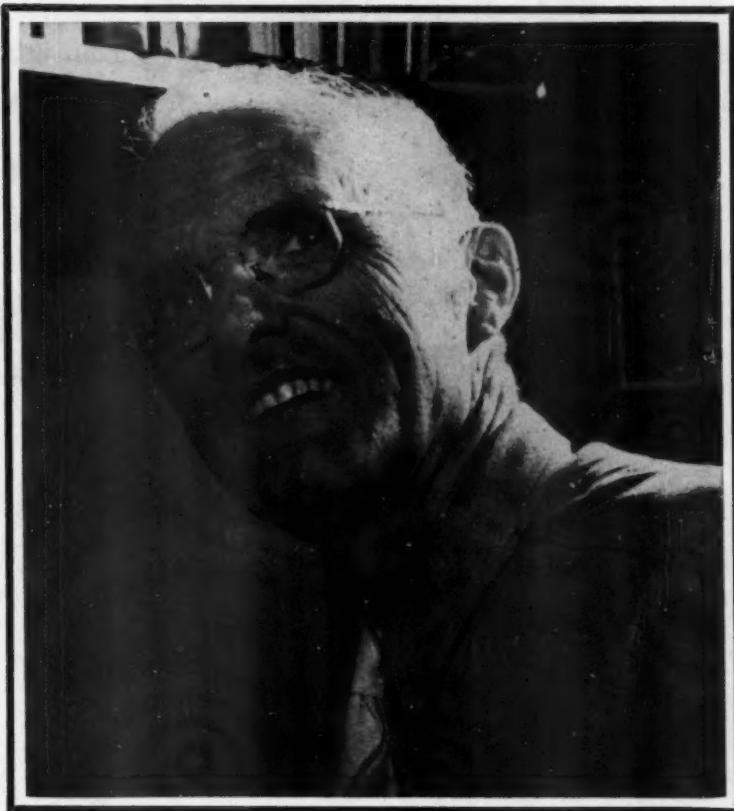


AMERICAN BEE JOURNAL

VOL. 91

JUNE, 1951

NO. 6



My Creed...

*The universe is mine with all eternity to explore.
My limitations are only such as I myself shall make.
No one can injure me but myself.*

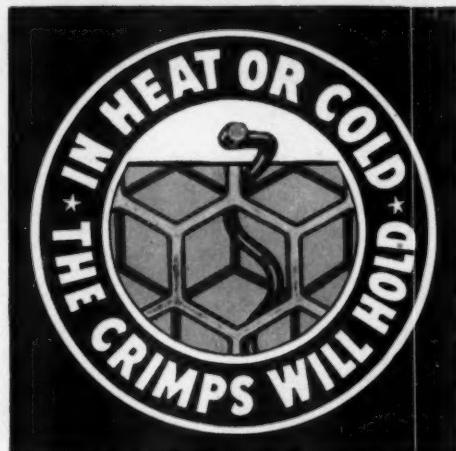
The greatest calamity that can befall me is but temporary, and in the light of the future will seem but a trifle.

I will, therefore, be serene, unruffled and content, knowing that if the thing that I desire is beyond me today it will come to me tomorrow.

Frank Chapman Pellett, 1879 -- 1951

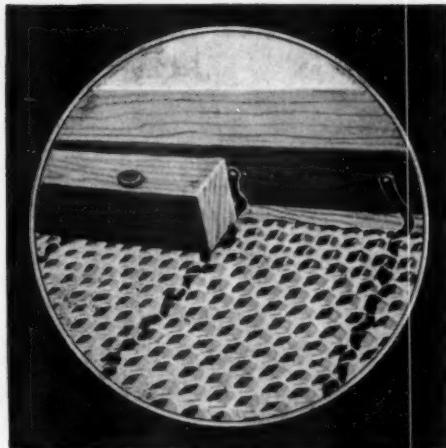
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Volume 91, No. 6

June, 1951

THE AMERICAN BEE JOURNAL HAMILTON, ILLINOIS

Editor—G. H. Cale

Associate Editors—M. G. Dadant, Frank C. Pellett, Roy A. Grout
Managing Editor—Adelaide Fraser

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What's Going On

Middlesex County Beekeeper's Assoc.
Concord, Mass., June 30

The next regular outdoor meeting of the association will be held at the home and apiaries of the president, A. J. Baptiste, Lexington Road, Concord, Mass. at 2 p.m. on June 30. Members are asked to bring basket food to be enjoyed at the close of the afternoon. There will be an outdoor fire for those who wish to cook hot dogs or hamburgers. Coffee and ice cream will be served.

The "club hive" which was started at Waltham in April will be inspected. The club will give the hive to one of its lucky members at the last outdoor meeting to be held September 29.

John H. Furber, Sec'y

Western Missouri Beekeepers Assoc.
Kansas City, June 10

The first outside meeting of the year will be held at the home of Frank E. McLaughlin, 2733 Jackson, Kansas City, Missouri on June 10 at 2:30 p.m. The proper method of examining a hive of bees will be demonstrated and those in charge will answer questions. All members are invited to bring their bee problems to the meeting.

The August meeting will be a picnic in Swope Park and several out of state groups will meet with the association.

Mrs. H. J. Schaffer, Sec'y

Iowa-Nebraska Joint Meeting
Council Bluffs, July 14

The Iowa-Nebraska beekeepers joint summer meeting to be held in Council Bluffs, Iowa, on July 14, has the following program prepared for all comers.

9:30-10:30 A.M. — Open house at the A. I. Root Company's plant.

11:00-12:00 A.M. — Recreation at Kewanis Point.

12:00-1:00 P.M. — Pot luck picnic (Coffee and lemonade by the Root Company, bring plate and utensils).

1:30-4:00 P.M. — Speakers and contests. Contests to include:

1. Slipper kicking.
2. Frame nailing.
3. Smoker lighting contest.
4. Henry Hansen's Quiz Session. (Bring hammer, smoker, and smoker fuel.)

Visitors are welcome.

R. J. Walstrom
Iowa State College

Westchester County Beekeepers
Tarrytown, N.Y., June 17

The regular monthly meeting of the association will be held on Sunday, June 17, at 2:30 P.M., at the home of Mrs. Julia Chase, 12 Windle Park, Tarrytown, N.Y. This being the first outdoor meeting of the year, a hive demonstration will be given, weather permitting. A guest speaker will address the group.

A. M. Barnes, Publicity

New Officers

North Carolina Beekeepers' Assoc.

At the annual meeting of the North Carolina Beekeepers' Association held in New Bern on March 16 the following officers were elected: President, J. Richard Carr, Plymouth; Vice-President, J. B. Cashion, Shelby; Secretary-Treasurer, Eugene B. Finch, Raleigh. Other members of the executive committee are: R. C. Sullivan, Charlotte, and George Elmo Curtis, Graham.

Langstroth Memorial Meeting
Andover, Mass., July 21

The beekeeping fraternity is seeking to perpetuate our knowledge of Langstroth and his life. It is particularly significant that a Memorial Service be held in 1951 since this marks the one hundredth anniversary of the discovery of the bee space. With this in mind the Massachusetts beekeepers are planning such a service to be held in Andover, July 21, in "South Church" where Langstroth was pastor from 1836 to 1839. A bronze plaque in his memory will be installed in the church and a splendid program is planned with internationally famous beekeeping specialists participating. Such a program deserves the support of all beekeepers. You can help in two ways — by attending the services, and by making a financial contribution. All contributions will be gratefully received and acknowledged. Contributions can be sent to Wallace R. Parker, Secretary-Treasurer of the Massachusetts Federation of Beekeepers' Associations, West Boylston, Mass., or to F. R. Shaw, University of Mass., Amherst. Come and participate in our memorial to Langstroth. Your support will be greatly appreciated.

F. R. Shaw, Uni. of Mass.

The Cover

Our cover this month is dedicated to the memory of Frank C. Pellett, senior editor of ABJ. (Photo courtesy of the Des Moines Register.) Frank was very much interested in the cover contest and watched its progress with enthusiasm. His constant help and encouragement in making the magazine is greatly missed.

Next month we will resume the cover contest. This is good picture-taking weather, so even though you're swamped with bee work, take a moment to click the shutter and send in your results.

It is still surprising how many really fine pictures we continue to get in this Cover Contest. The total received has dropped off to a fraction but the quality of the pictures has risen remarkably. It does not require many pictures to afford selections for twelve covers. Why not try your luck? If you are interested in photography and have a good camera and especially if you know how to process your own pictures, you should do well. Each month the award for the winner is \$10 and we will not use more than two pictures for the cover from any one person. Any pictures not chosen for the cover may be retained for use on other pages; or returned. Send glossy prints, 5 x 7 or larger. Try for pictures of unusual interest.

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Scholar and naturalist, a team together. Mrs. Pellett and Frank.



Nature lover at an early age—results "Our Backdoor Neighbors," "Birds of the Wild," "Flowers of the Wild," and his books on bees.

FTER an illness lasting more than a year, Frank Chapman Pellett passed away at Atlantic, Iowa, on April 28, 1951. Had he lived until July 12, he would have reached his seventy-second birthday.

It was fitting that, after being in hospitals both in Atlantic and Council Bluffs, he should spend the last few weeks of life surrounded by those things he loved so well and with which he had spent his life. Under the ministrations of his wife and daughter-in-law, in the small dwelling which he used in summer both as living quarters and study, he gradually succumbed, planning to the last on which new plants he would try as spring arrived, and writing his "Postscript" for the American Bee Journal.

With only normal school education, Mr. Pellett gained for himself by industrious study the right to practice law in Missouri and practiced in that state for a few years. But his interest was not in legal work, and he decided to dedicate his life to the things he loved so much—nature, wildlife, the birds, the plants and the bees. Over forty years ago, he set aside on his farm near Atlantic, a ten-acre plot for a wildlife preserve which was to be followed later by the Honey Plant Test Garden which he developed in conjunction with the American Bee Journal.

In 1912, he became State Apriary Inspector of Iowa which office he held for five years. At about the same time, he began his written contributions to the American Bee Journal. It was natural that he should specialize on the honey bee since he had had his baptism in bee-

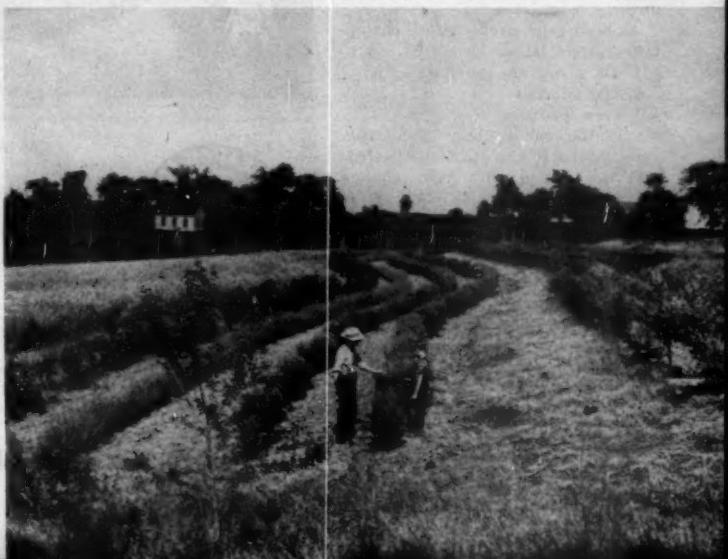
keeping under his grandfather, and had seen the fascination of this pursuit.

The winter of 1915 Mr. Pellett spent in the offices of the American Bee Journal at Hamilton, and in 1916, he moved there with his family and bought a home. But he retained his summer residence at Atlantic to pursue his nature studies unmolested, though his admirers came from far and wide to enjoy a day with their friend and to observe the results of his years of work and study. He became field editor of the American Bee Journal, and later associate editor, so remaining until his death. He was the senior member of the Journal editorial staff. His investigations of honey plants and his series of lectures, including a term with the

Chautauqua, took him to every state and to Canada and Mexico.

When the question of resistance of honey bees to American foulbrood first came up, Mr. Pellett vigorously pursued the possibilities. In cooperation with Iowa State College, the Iowa Experiment Station, and the American Bee Journal, an apiary of sixty colonies was established at Atlantic in which presumably resistant queens were collected from many

In Pellett Gardens, part of the honey plant gardens.





Dr. Dunham, of Ohio, and Pellett in the honey plant gardens. These plantings drew great and near great from many places.



This sign in the test gardens typifies the outlook of Frank Pellett, and symbolizes his philosophy.

Pellett

1951

sections of the country, as well as from Tahiti and the Caucasus, to determine the degree of disease resistance and whether such characteristics might be transmitted from one generation to another. This they did prove. Later the work was turned to other hands, including the Division of Bee Culture, and Mr. Pellett returned to his long-loved nature study.

In the course of his life, he wrote

thirteen books and co-authored several others, including his chapters in the 1946 and 1949 editions of "The Hive and the Honey Bee." His books include "Our Backdoor Neighbors," "Birds of the Wild," "Flowers of the Wild," "How to Attract Birds," "Success with Wild Flowers," "History of American Beekeeping," "Beginner's Bee Book," "The Romance of the Hive," "A Living with Bees," "Productive Beekeeping," "Practical Queen Rearing," and with his son, "Practical Tomato Culture."

The great monument, however, which he created and which will stand as both a challenge and a beacon is his book, "American Honey Plants," which has gone through four editions, the last one being published by the Orange Judd Company

in 1947. In it are listed some 475 plants whose flowers produce either nectar or pollen, together with information on their blooming time, distribution, soil requirements, and the nectar and pollen attraction for bees. Mr. Pellett had in process a revision of this great work for some future date. As with any truly great man, he leaves much work unfinished.

Another of his important works was the searching for and testing of plants which might have possibilities for the beekeeper and fit, as well, into our North American agriculture. Hundreds of plants were tried by him, coming from correspondents all over the world. Only a year ago, he remarked that he hoped to visit Asia Minor and the Near East from whence originally came many of our present legumes.

Thus, importance was given to *Trifolium ambiguum*, later named Pellett clover — a legume having a spreading, deep root system, which now is being investigated by many experiment stations as a desirable addition to our agriculture. Likewise he investigated the native mints which might have value for their menthol or other chemical constituents. He was among the first to recognize the value of bird's-foot trefoil and Ladino clover as highly desirable legumes. Following his leadership, several states already are instituting honey plant test gardens, and others are in contemplation.

Mr. Pellett's recognition of the importance of honey-bee pollination to our agricultural economy was far in advance of his time. It was his interest and enthusiasm that sparked the first pollination conferences which have done more than

Melvin Pellett and Frank in the Wagner pea plots. The introductions of honey and farm plants and spreading interest in them was the basic purpose of the test gardens.





In this "Bughouse" many of Frank's books were written and the records and studies made for his researches.



Pellett Clover (*Trifolium ambiguum*) was perhaps the most exciting introduction of all the hundreds that were made.

any other factor to bring proper recognition by agriculture to the importance of pollination. On his sixty-seventh anniversary, he was given special recognition at the pollination conference held at the garden at Atlantic. At the Fifth Annual Pollination Conference a banquet was given in honor of his seventieth birthday. He long will be remembered for his statement made at this meeting. "The honey bee is the key to our agricultural economy."

In recognition of his outstanding work, Mr. Pellett was made an honorary vice-president of the Apis Club of England and an honorary member of the Bee Kingdom League of Egypt. For a long time he had been an honorary member of the Rotary Club of Atlantic, the Kiwanis Club of Hamilton, and Tri Beta of Carthage, Illinois. He was listed in "Who's Who in America," "Who's Who in English Literature," and "American Men of Science." In 1947, he received the national Skelly award for superior achievement in agriculture, the National Association of State Garden clubs award, and was presented with a special medal by the Iowa Horticultural Society. He was a fellow of the Iowa Horticultural Society, the Iowa Academy of Science, and the Royal Horticultural Society of England. He was also a fellow of the American Association for the Advancement of Science and of the American Association of Economic Entomologists.

Mr. Pellett is survived by his devoted wife, Ada; three sons — Kent,

of Hudson, Iowa; Melvin, of Atlantic, Iowa; and Fred, of Toledo, Ohio; and one daughter, Ruth (Mrs. William Barnard), of Olmstead Falls, Ohio. There are fifteen grandchildren.

We at the American Bee Journal office, in thirty-five years of association with Mr. Pellett, have known of his many fine works, but above all we admired him as a man. He always had a kind word for everyone; all people were his friends. He was never too busy to help the other fellow and never resented, but rather applauded, the work done by someone else, whether or not it was at his instigation. We will always remember his enthusiasm, his philosophy of life, and his fullness of purpose which made him a great man.

We cannot close our account of his life more fittingly than by reprinting the following editorial which appeared in the Atlantic News Telegraph, and was written by Mr. F. C. Simpson, editor.

FRANK C. PELLETT.

"The death of Frank C. Pellett has probably touched more people around the earth than has the death of any other in the history of this community. Frank Pellett, literally, had friends all over the earth. He was probably Atlantic's most successful citizen, although his success was measured by standards far different from the normal measurement, dollars accumulated. He was not a poor man, but his life was not devoted to the accumulation of wealth, as are

the lives of so many successful men.

Early he decided that the greatest satisfactions in life came from doing well those things which one loved doing. He quit the office and the desk and became a student of nature. Here he was at home. In dealing with nature he was doing the thing he loved best. We can well remember some of the treasured stories of our youth, stories about the back yard neighbors which Frank Pellett so enjoyed and about which he wrote so delightfully. He wrote beautifully of nature because he had nature in his heart. He wrote of the little things, the flowers, the tiny animals, the birds, the insects, which he knew from friendly contact on his woodsy farm near here.

As time passed, his knowledge caused him to be drawn into those commercialized fields in which nature and commerce touch. He became one of the world's leading authorities on bees. From this he moved into the field of plants from which bees collect the nectar they use in the manufacture of honey. Through his work in this field he made contacts with naturalists and scientists in every continent on the globe. His gardens supported plants unknown elsewhere in North America. To visit him came men of science from far places. Often he had to talk with them through interpreters.

With the coming of the wars his efforts turned to other fields, the production of oils which had become scarce because of the restriction im-



The early research to develop disease resistant bees was centered in Pellett Gardens, later expanded to include state and government laboratories and Dadant's research efforts.



With camera and plants, for honey and pollen, Frank was supreme. His book "American Honey Plants" is his greatest work.

posed upon commerce by wars. A whole new type of plants bloomed in his gardens. To study them and their possibilities came other scientists, while the laboratories of the University of Nebraska and Iowa State college cooperated with him in his program, as did great commercial laboratories about the nation.

So the quiet little man we knew attracted to himself men high in the scientific world, as he built for himself a life which might well become a pattern for young men who search

for the deeper satisfactions of life which come with accomplishment. But this was not done without a plan. It was no hit or miss way of life. Early Frank Pellett adopted a creed by which he lived. He wrote this creed down in later life, so that we are able to pass it along. By this creed Frank Pellett became a truly great man. We recommend it to young men everywhere. It is a legacy which Frank Pellett has left for all who will use it.

The universe is mine with all eternity to explore.

My limitations are only such as I myself shall make.

No one can injure me but myself.

The greatest calamity that can befall me is but temporary and in the light of the future will seem but a trifle.

I will therefore be serene, unruffled and content, knowing that if the thing which I desire is beyond me to-day it will come to me tomorrow.

Beekeeping Craft and Hobby

A Scottish bee book, with the above title, has been written by A. R. Cumming and Margaret Logan and published by Oliver and Boyd of Edinburgh at a price of 10/6 (\$1.75 postpaid). Illustrated, 160 pages, cloth-bound.

The authors do not claim to be experts but theirs is a very clear and accurate description of the best way to keep bees. They favor the 16-frame "Glen" hive and would rather use porous quilts over the frames than crown-boards (escape boards or inner covers). Loose hanging frames with adjustable metal spacers are preferred to the American Hoffman self-spacing frames, and they recommend that the beekeeper rear his own queens rather than stand the expense and danger of disease from imported stock.

Their description of gathering heather honey makes one wish that such honey plants were available in the U.S.A.

"The production of heather honey is at once the most satisfying, interesting, difficult and profitable part of the beekeeper's craft." In favorable locations 100 colonies can be supported and gather a crop to each square mile. The real heather is the ling; others are the bell heather and the cross-leaved heath.

Heather honey is very difficult to extract. If it is not sold in the comb, it must be pressed out.

Tunisian Book on Bee Diseases

From the "Centre D'Etudes Apicoles De Tunis" comes a 220-page, paper bound book, entitled, "Comment Guérir, Vitaliser, et Faure Produire Votre Rucher" ("How to Cure, Vitalize and Make Productive, Your Apiary") written by Mr. Robert Lutz.

The general thesis of the book is that practically all bee diseases are a direct result of the weakening of the colony and the bee herself through the ravages of either Nosema, acarine or amoeba diseases.

Treatment, says the author, and cure of these diseases will make unimportant such other diseases of bees and brood as we have considered of major importance.

Mr. Lutz proposes and has originated a series of treatments for honey-bee colonies both by fumes and by feeding with sirup at regular intervals, with claims for a curing and revitalizing of such colonies with an attendant better field force, better morale, and consequently a better crop of honey.

Experiences with the sulfa solution in the treatment of American foulbrood, even though the complete eradication of the spores of the disease may be questioned, does leave the assumption that there may be a still unexplored field in medical treatment of the honey bee as a means of disease eradication.

The book may be obtained from the author above at 19 Rue de Provence, Tunis, North Africa. Price, \$3.00.

Beekeeping's Part in the National Emergency

by Roy A. Grout

NO one needs to be told that our country is confronted with a national emergency. We are engaged in a United Nations war in Korea; we are pledged to a western front in Europe; and in other ways we are involved in a global controversy. Consequently, we are faced with a rearmament program that is predicted to last for at least three years.

This comes at a time when our production levels are at a high point. To drain from this high-gear production level the materials and manpower necessary for mobilization, will bring to this and other industries shortages and situations more critical than those of the last war period. As before, beekeeping, along with all phases of agriculture, will want to play its proper part to cooperate fully in supporting our country's efforts.

Again the emphasis of the beekeeping industry must be placed on the importance of honey bees through pollination to the production of food and seed crops, and to the production of beeswax—with less emphasis on the production of honey. This is important if the industry is to be given preferences and priorities, as before, and to receive recognition as an industry essential to our country's programs.

The position of the industry in relation to the national emergency is different than it was during the last war period. At that time, our shipping lanes were besieged with submarines; our supplies from abroad were cut off; we had a serious sugar shortage. Honey then served as a substitute for sugar and was in great demand. We now have no shipping problem and our supplies of sugar are more than ample. We must admit that we can meet anything but an all-out war without honey being considered as essential to its successful outcome.

In a recent talk before the National Chemurgic Council relative to de-

fense needs, Byron T. Shaw, deputy administrator of the Agricultural Research Administration, USDA, aptly stated the position of the industry:

"We all remember the fable about the kingdom that was lost for want of a nail in a horseshoe. Beeswax is another of those seemingly unimportant ingredients of everyday life but a very critical material now, because it is used as a special coating for certain munitions and for various purposes by airplane manufacturers. The only producer of beeswax is the honey bee. We have never been able to make it any other way. Our present output is about 4 million pounds per year, but we need twice that much. This deficit is normally made up by imports. Of course, bees are useful in many other ways aside from the production of beeswax. About 50 of our most important crops require pollination by honey bees or other insects."

These are pleasing words to beekeepers everywhere, but they also present a serious challenge to us.

It should be told that the beeswax supply picture is not bright. During 1950, supplies from abroad were not plentiful, and England and Europe have been outbidding this country for the world's beeswax as they also stock-pile in an emergency program. And until recently, the import markets were handicapped by the general price freeze, which froze prices at the distributors' and manufacturers' levels but did not control the price of imported beeswax.

The beekeeping industry, therefore, needs to give serious consideration to a program of producing more beeswax; certainly it should adopt a program of saving more of the beeswax which our bees produce.

According to figures of the Bureau of Agricultural Economics, we had 5,612,000 colonies of bees and produced 4,275,000 pounds of beeswax in 1950—less than a pound per colony

annually. No one can say that we cannot produce more than a pound of beeswax per colony each year. Certainly we could produce more beeswax without detriment to the production of honey. And there is every reason to believe that we can save more of the beeswax that our colonies produce.

Saving beeswax is like picking up pins or saving pennies. It seems such a small thing at the time, but it adds into money as the season rolls along. It simply means not wasting beeswax. Carry a closed container habitually with you and pick up these bits of wax from day to day as you work your bees. It will surprise you how much you can save in a year's operation. Saving beeswax also entails protecting bits of wax and old combs from the ravages of the wax moth. For after the wax moth gets a good start and the combs are riddled, it is extremely difficult to recover the wax and much is lost.

Producing more beeswax primarily entails replacing old and faulty combs with full sheets of comb foundation—a good beekeeping practice which is usually sadly neglected. If every beekeeper would cull from each colony two combs during this season, it would amount to upwards of two million pounds of beeswax which would go to market. And he would be benefiting himself through the use of better combs in his colonies. Beyond this, the production of beeswax is a subject about which more research is needed. Certainly, our honey markets would be improved if honeys not suitable for table use were used by the bees in wax production. We need to know how to do this and, at the same time, take full measure of the honeyflow when it comes.

Naturally, the principal role of the industry in the national emergency is in the production of food and seed crops. Agricultural practices have decimated our populations of wild

pollinating insects; the major role has thus been reserved for the honey bee. Ours is the responsibility of joining wholeheartedly and cooperatively in the current programs of the government to help to increase food production while maintaining the productivity of our soil. We can do this through planned pollination as an agricultural practice.*

But this presents a serious challenge to the industry; it is here that we can contribute most in the national emergency. Inasmuch as no state has enough honey-bee colonies to adequately pollinate its food and seed crops, it is important, and it is going to become more so, that every colony of bees is used to the best advantage, wherever possible, to help in this problem.

Depending on the circumstances, the beekeeper has two possible approaches to pollination as a service to agriculture: He can continue as a honey producer but taking advantage of opportunities which arise in his area to add to his income through pollination services, or he can completely turn to the keeping of bees for pollination purposes. For most, the first approach will be indicated. It is only the full-time bee-

keeper equipped with trucks for moving colonies who will choose the latter course. However, the day may well come when growers will take care of the moving problem for part-time beekeepers, as the demand for more bees increases. The Kentucky State Beekeepers' Association, in cooperation with the Crop Improvement Committee, have already recommended payment bases in which the grower provides for moving the bees in and out of orchards and fields.

As we approach pollination as an agricultural practice, we find ourselves faced with many problems—many things still to be learned. It is not strange that this is the case. This problem has come to the industry only in recent years and, when we consider how quickly it has come, it is no wonder that beekeeping appears slow in approaching pollination as a service to agriculture. We have made remarkable progress both in research and in practice in the relatively short time involved. And, as more and more bees are used, we are going to find out more of the answers and be able to serve agriculture more effectively.

So, as we face the national emergency and try to decide for ourselves the part we can play, we must place further emphasis on the production

of beeswax and on the use of our bees in pollination—with less emphasis on the production of honey. Some will say, "Let George do it. To heck with beeswax and pollination!" O. K., Mr. Beekeeper, you can do that if you wish. But, if the industry as a whole adopts such an attitude, we are not going to be considered an essential industry. Beekeepers may be drafted; we will not get lumber for beehives, steel for metal items, and tin for containers, until those industries which are essential to the national emergency get what they need. This is not to imply that we all should quit producing honey. Nothing would be more foolish and absurd. But we all can and should help in any way possible, during this season and those to come.

Our greatest challenge and role is in helping to adequately pollinate food and seed crops. Entomologists and agronomists, growers and beekeepers must cooperate to the fullest extent to help increase production. Beekeepers, I believe, have the greatest part in this, and they also have the most at stake. Now, as never before, we have the opportunity to rise to our true position of importance to the agricultural economy, through effective use of our bees for pollination as a service to our country.

* See p. 258 announcing new pollination bulletin.

Education Sells Pollination

A year ago at a meeting of the Crop Improvement Association of Oklahoma, a group primarily consisting of growers of approved alfalfa seed, the chairman apologized for having a beekeeper on the program.

One year later, this group not only had a beekeeper as its speaker but also held a round-table discussion on the use of honey bees to help increase alfalfa seed yields. The speaker was the Secretary of the American Beekeeping Federation. He accepted the theme that these growers already knew that honey bees were important to the cross-pollination and subsequent set of seed, and explained earnestly and sincerely to his listeners why the pollination services of honey bees must be paid for. He talked about the complexities of keeping bees, especially in regard to the producer who forsakes a crop of honey

to enable the grower to increase his seed yields.

Seed growers were attentive and interested—to the extent that repeated requests for a copy of the talk caused the association to mimeograph and send it to all of its members.

This is part of an educational program designed to make pollination pay more of the cost of beekeeping. Talks, articles, and demonstrations are fast selling growers that pollination is just as essential in the production of a seed crop as proper planting, insect control, harvesting methods, and other cultural practices.

It behooves the beekeeping industry to awaken to what is happening in agriculture, and educate ourselves as to how to best serve growers in our pollination efforts.

Use Honey to Reduce Your Waistline

by D. C. Jarvis, M.D.

HAVE you concluded you are putting on weight because your waistline has increased and your clothes fit tightly? In addition to this sensation of tightness outside your waistline you may also have a sensation of tightness inside your waistline. This sensation of tightness both inside and outside the waistline may not be due to accumulated fat. Instead it may be due to an accumulation of fluid in your abdominal cavity which produces a pressure and makes your clothes fit tightly around your waist.

This storage of excess fluid in your abdominal cavity may be made to disappear by taking honey. The amount taken at each meal is two teaspoonfuls and more if you wish. This honey may be used to sweeten food such as coffee or cereal or it may be taken directly from the spoon. At the end of one month the waistline will generally be two

inches less as shown by either the tape measure or the way in which the clothes fit around the waist. The scales may show no loss in weight or at the most only one or two pounds. The loss of tightness of clothes at the waistline and the loss of the sensation of tightness inside demonstrate that a marked change has taken place.

You may ask how does honey take down the waistline? The answer is through its ability to attract and hold water. Honey is hygroscopic, that is, it is able to absorb or condense moisture from the atmosphere. The ability of honey to attract water is mainly due to a sugar called levulose. Levulose has the most moisture attracting ability of any sugar.

Because of its ability to absorb, condense and retain moisture, honey should never be kept or stored in an icebox or in the cellar. A dry and

not too warm place and a tightly closed container are best suited to storing honey.

This moisture absorbing ability of honey is observed in baking pastries and bread. Both remain moist and palatable for an indefinite period. In addition, honey has a very distinct bactericidal power which is mainly due to its moisture absorbing ability. All living microorganisms require a certain amount of moisture to maintain their lives. When these microorganisms come in contact with honey they are deprived of this moisture, and perish. Most microorganisms which are harmful to the human body are destroyed in honey.

This moisture attracting ability of honey can be put to various uses. One use is to attract and remove from the abdominal cavity excess fluid being stored there.

Vermont

Man's Most Useful Insect

On the busiest corner in downtown St. Louis, stands a 16-story building, the first three floors of which are occupied by Boatmen's National Bank. Its seven display windows facing Broadway and Olive streets, and one display window in the lobby, contain a marvelous display about honey bees, beekeeping, and pollination. It is the result of ingenuity and enterprise; it is tops in public relations both for the bank and for the honey industry.

The men responsible for bringing this about are Geo. C. Nagel and August P. Beilmann. George is in the advertising business and is a hobby beekeeper. Gus, as he is called by his friends, is manager of the Missouri Botanical Arboretum at Gray Summit where he maintains an apiary of honey bees for pollination purposes. They are president and secretary-treasurer, respectively, of the Eastern Missouri Beekeepers' Association.

Looking out of the window of his office, which is across the street from the bank, George Nagel had an idea: Why not get the

bank to use its windows for a display on bee-keeping? George called Gus, an appointment was made, and in two hours the arrangement had been made. The exhibit was created by the advertising department of the bank with help from many sources, but mostly from George and Gus. The bank wanted a theme for the display. George had it—Man's Most Useful Insect. The exhibit will stay in the windows for 30 days and a table inside has a good supply of journals and leaflets on bees, pollination, and honey as a food. Just walk inside and help yourself. And George and Gus are busy keeping the literature available, replacing sheets of foundation which lose shape in the sun, and running hither and yon to keep the two observation hives stocked weekly with fresh live bees.

This is public relations at work. The bee and honey industry needs it. Let's give George Nagel and Gus Beilmann a hand, and then profit from their example. You and I can help market honey and help sell pollination by doing something of this kind.

Vermont Exhibit

by Charles Mraz

One of the projects taken up by the Vermont Beekeepers Association the last two years that might be of interest to other associations is that of exhibits at the fairs. Our main one is displayed at the Eastern States Exhibition in Springfield, Mass.

Through the courtesy of the Vermont Development Commission, the Beekeepers Association was given a good space near the entrance. To attract the public in a place of this kind, we found that life and motion were the most essential features. Signs or displays alone do not have any appeal, but a large observation hive made of five frames one above the other, was ideal. Of course everybody wanted to stop and see the bees "make honey." We extended a long cardboard tube to the outside so that the bees could fly to prevent them from getting distressed by too long confinement.

In addition, supers of nice extracting combs along with a small hand extracting outfit supplied further action. Our president, Clyde N. Wood, officiated in this capacity by extracting honey right before the public and this extracted honey was distributed in little paper cups as samples. The only drawback was that robbers soon found the honey since there was no nectar coming in. However, most people thought the robber bees were part of the show which made it that much more interesting.

Another item of considerable interest was a section of a bee tree furnished by Russell Marseille. Many people were interested in seeing what the inside of a bee tree looked like.

Kenneth and Maxine Manchester, Robert Mead, and Charles Barozzi all did a splendid job of selling honey to the public. Almost \$3,000 worth of honey was sold. This honey was bought by the Association from the members and sold at the fair at retail price. The profit was used to pay labor and expenses and the balance went to the Association treasury. It all involved a lot of work, but those who did the job had a good time meeting the public and talking about bees.



Clyde M. Wood, president of the Vermont association, uncapping a frame of clover honey for extraction, while Charles Barozzi pours honey samples in paper cups. In the background is the revolving display of various honey packs and the "exploded" beehive topped by a straw skep. The children among the visitors seemed to smell honey like bees. Whenever preparations were made for handing out samples they gathered from nowhere.

Below: All of the exhibits received their share of public attention. At left, the "exploded" hive with explanatory cards, topped by a straw skep.



Below: Internal arrangements of the exhibit. Clyde Wood, beyond the covered extractor, explains the art of beekeeping to a fascinated public. Frames for extraction were kept at a suitable temperature by an electric bulb in the storage super. Beyond the revolving rack and sample dispensers, are Mrs. Maxine Rochester and her husband Kenneth, selling honey to the public. Robert Mead, by the observation hive, makes change.



Beekeeping in Tanganyika

by Francis G. Smith, B.Sc.*



A general view of the Research Apiary during the dry season when the trees are leafless. The guard's hut in the foreground is made of poles and mud.

TANGANYIKA is a great bee-keeping country. Some 460,000 square kilometers are covered by dry woodland which is composed almost entirely of nectar yielding species. Much of the remainder of the country supports thorn bush, which is also nectar producing, but not as dense as the woodland.

The quality of the honey harvested is very high, similar to clover in flavour and colour. In the woodland areas, the honey produced just before and at the beginning of the rains is, from some species, rather dark and strongly flavoured, but this is all used up in brood rearing during the raining season. The species that flower at the end of the rains produce the high quality honey, and it is this that is in the hives when the beekeepers go out in the dry season to bring in the crop. July is the usual honey collecting month in the woodland areas. By then much of the tall grass that might conceal a lion or leopard has been burnt, the honey in the hives is ripe, and there is little or no brood.

The hives used throughout the territory are cylindrical, made of hollowed out logs, sewn bark covered with straw or, in a few localities, bamboo and straw and sealed with dung. The usual form of hive

has holes for the bees to enter at one end, and a bung for the beekeeper to enter at the other. Some log hives are split from end to end and open lengthways. The hives are placed high in the trees, either resting on branches, or hanging from a stick. It is necessary to place the hives high up to be clear of the grass fires that sweep through the country every year. Smooth barked trees are preferred to afford protection from ants and the honey ratel, a badgerlike animal that has a bearlike interest in beehives.

In order to attract the bees to the hives, the interior of the hive is

rubbed with hot beeswax or the wax of stingless bees (*Trigona spp.*). In addition, the hive is frequently stood in the smoke of a piece of beeswax smouldering on hot embers.

As far as beekeeping practice is concerned, it is merely a matter of making the hives, baiting them, hanging them in the trees and then when the honey is ready, going round and collecting it. Often the honey is collected at night when the bees are less likely to come out and sting the beekeeper, but some beekeepers collect it in the daytime, using branches of smouldering twigs to provide smoke. Normally, the only protective clothing used is a cloth round the head and the face, but when I have been out on collecting expeditions with the beekeepers, I have found them only too glad to put on overalls, gloves and veils, and they greatly appreciate the value of a modern smoker.

The comb is divided into three parts. Empty comb, comb containing honey, and comb containing brood. The brood is eaten as it is. The honeycomb is treated in several different ways according to local demand. One method is to put it in a tin or gourd, and break it up with a stick. The honey is then sold in the market in this condition, complete with bits of wax and a few bees. Elsewhere it is put in the sun to warm up and then the honey

* Beekeeping Division,
Department of Agriculture,
Tabora, Tanganyika Territory, Africa.

A bark hive, bound with a protective covering of straw. This hive is safe from the honey ratel.



is squeezed out with the hands. Another method is to heat the honeycomb, in a pot on the fire until it all melts then let it cool and remove the cake of wax from the top. In the last method the honey is very dark and tastes of burnt sugar. The honey does however, even if burnt, have a ready sale at 35 to 40 shillings per tin of 56 pounds, for local consumption instead of sugar or for native beer making.

The preparation of beeswax however, has developed into a very fine art. First the comb is melted in water over a fire. When melted, it is ladled into a long grass woven bag. With the aid of two sticks, one on each side of the bag the wax is squeezed out. Very little wax is left in the cocoons and other rubbish in the grass bag. The wax, now free of the cocoons and larger rubbish, is poured through a piece of cloth into an enamel bowl in which it is allowed to set. The result is a fine cake of beeswax. This method of rendering beeswax, although primitive, is extremely efficient, and it is doubtful whether there would be less waste with a modern wax press. The vessels used are either earthenware, aluminum, tin plated or enamel, with the result there is no metallic stain in the wax as is obtained with iron and zinc, and the wax can thus be easily bleached. It is this ease with which Tanganyika beeswax bleaches that makes it in such high demand on the world market.

Nothing further is done to the wax before shipment from Dar-es-Salaam. The shippers, by law, have to break the cakes into small pieces to ensure that there is no attempt at adulteration by adding stones or other foreign bodies. Some of the cakes of wax get dirty on the outside during the course of their journey to the coast, and others have not been rendered so cleanly as they might, so the shippers scrape the dirty wax off such cakes, and render it before shipment. All consignments are sampled and analyzed by the Government Chemist before shipment is allowed.

The accent in this territory is on beeswax production because the demand for beeswax for export is good. The price obtained for honey on the local market is very much better than the prices offered for honey for export, and it is only very rarely that there is more honey produced than can be consumed in the

country. All the beeswax produced is exported, and averages about 650 tons per annum. The greatest amount exported in one year was 905 tons in 1948.

The objects of the Beekeeping Research Station are as follows:

1. The study of the honey bee in Tanganyika in order to determine the most efficient methods of management for the production of beeswax and honey.

2. To study the different qualities of beeswax and to determine the most suitable treatments in its preparation for market.

3. To study different qualities of honey produced in Tanganyika and to determine the most suitable method of grading, treatment, and packing.

4. To train departmental bee-keeping instructors in beekeeping, the preparation of beeswax and the treatment of honey.

5. To teach school teachers, missionaries and prospective commercial beekeepers apiculture and the preparation of beeswax and honey for market.

6. To study and advise on such problems connected with the bee-keeping industry as may from time to time arise.

In addition to the headquarters with laboratories in Tabora, the Beekeeping Division is building up a staff of instructors covering all the beekeeping areas in the Territory. These instructors, in addition to teaching the beekeepers and reporting on local conditions, maintain demonstration apiaries.

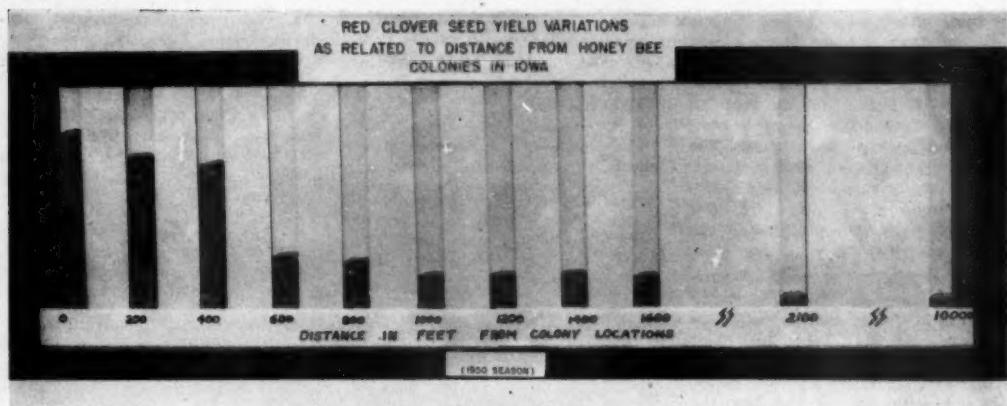


Driving bees from a native hive into a Langstroth frame hive. Constant pounding makes the bees climb up into the upper hive.



Langstroth hive in grounds of African Boys' School, Tabora. This shows the type of stand used to provide protection from termites and ants. The pieces of tin at the top of the concrete legs are greased on the underside.

RED CLOVER SEED YIELD VARIATIONS
AS RELATED TO DISTANCE FROM HONEY BEE
COLONIES IN IOWA



Red Clover Pollination

by R. J. Walstrom, F. B. Paddock, O. W. Park and C. P. Wilsie

Iowa State College, Ames, Iowa

THIS study was conducted to determine the effect of honey-bee pollinating activity on red clover seed production under central Iowa conditions. Information gained was expected to be valuable in the efficient location of pollinating colonies in red clover fields.

Field arrangements. Clover fields selected were in an area where honey-bee population was known, and where competing plants were at a minimum. Field A, in which the colonies were placed, was 44 acres in size and measured 89 rods north and south. Field B, directly south of Field A, consisted of 34 acres and measured 69 rods north and south. Continuing southward for 137 rods and directly adjacent to Field B was a third field designated as Field C. A check field known as Field D, located 2 miles south of the bee colonies, included 35 acres. Honey bees having closest access to this field were 8 colonies situated $\frac{1}{2}$ mile west and $\frac{1}{4}$ mile south.

Crop management. The clover in Field A was mowed June 26 and the hay removed June 30 and July 1. In Field B, the crop was mowed June 29 and the hay removed July 5 and 6. Mowing and removal dates for Field C were the same as for Field A. The clover in Field D was mowed

June 27 and the hay removed July 1.

Injurious insect control. Prior to the time of mowing the first crop of clover, standard sweepings indicated 1.05 lygus bugs per sweep. Lygus population did not build up to that level in the second crop, but a damaging infestation of grasshoppers, averaging 2.5 hoppers per sweep, was present on July 12. A spray consisting of 1 pound of DDT and 1% pounds of toxaphene per acre was applied to Fields A, B, and D on July 18 at which time the average height of the clover plants was 7 inches. Field C was not sprayed.

Honey-bee pollinators. On July 23 and 24, 103 two-story colonies of honey bees were placed on Field A in two rows approximately 18 feet apart, extending 440 feet east and west, at a distance of 950 feet from the north border of the field. The brood strength of these colonies was from 8 to 12 full frames. In addition, there was an apiary of 25 colonies adjacent to the north edge of this field.

Pollen traps were placed on 12 of the colonies in Field A, and on 2 colonies in the 25-colony apiary, to determine the floral sources of honey bee-gathered pollen. Observations by this means indicated that red clover pollen composed 50 per

cent or more of the pollen collected by these colonies during the time they were located on the field.

Seed sampling method. Seed samples were taken on August 30 at 200 foot intervals extending south from the colonies through Fields A and B. Ten individual square-yard areas were harvested at each interval. Also 10 samples were taken at a distance of 500 feet into Field C and another 10 samples were taken at scattered points in Field D. These samples were loosely bagged and permitted to cure thoroughly prior to threshing, which was accomplished by putting the samples through a rubber belt friction-type nursery thresher. Seed weights were determined on individual samples and averages computed for the various distances from the honey bee colony location. Samples taken in Field D were used for comparative purposes, to indicate the relative effect of insufficient pollinators on seed production.

Results. Comparative yields of red clover seed obtained at various distances from the bee colonies are shown in Figure 1. The rather distinct break in seed yields, between the 400 and 600 foot distances from

* Journal Paper No. J1905 of the Iowa Agricultural Experiment Station, Ames, Iowa. Project No. 1164.

the colonies, may have been due in part to certain field conditions as well as to the increased distance from the bees. Field A was pastured lightly by both cattle and hogs, while Field B was not pastured. Hay removal in Field A was completed July 1, but was not completed in Field B until July 6. It was known also that Field B was not as well drained as Field A. In spite of these contributing factors, that may have influenced the actual seed yields, it is believed that this preliminary study indicates that red clover seed yields decreased considerably as distance from the colony location increased. The 400 to 600 foot distance appears to be an economical interval for use between groups of colonies used for red clover pollination.

Future Plans. Further investigations should include soil sampling to determine whether the levels of available phosphorus and potassium are sufficient for high seed production. Also, more detailed observations are needed on the variation in abundance of bloom, and on the general conditions of stand and vigor of the clover crop. It is recognized as well that more adequate replication of sampling intervals is essential for critical comparisons of actual yields of seed.



R. J. Walstrom, Extension Entomologist at Iowa State College and co-author of this article.

Colony Standards for Pollination

Performance is the true measure of the effectiveness of a pollination service. It is the seed in the bag—the fruit in the basket—that tells the story. However, a share-of-the-crop basis is not acceptable in all cases and wherever fixed fees are preferred, colony standards are needed.

Some beekeepers take their bees to the orchards for a dollar or two; others get six, seven or ten dollars. The same holds true in the case of other crops. Of course, circumstances alter cases. The man who places one or two colonies of bees to the acre on alfalfa or vetch generally gets more honey than the one who goes wholly for pollination with two or three times as many colonies.

But the beekeeper needs to do his full share in a fair-deal situation. This was brought forcibly to mind by a beekeeper who stated that he was getting a dollar a colony for apple pollination and making a good thing out of it.

He later divulged that he divided his colonies and moved a two-frame nucleus in each hive to the orchard, and let them build up on the fruit bloom.

When we consider that the pollination seeker usually knows little or nothing about bees, it is imperative that our industry be fair to him.

The Apiary Board of Arkansas recommends that the average colony rented for pollination should have at least 750 square inches of brood with bees to cover. Eckert of California recommends for their area 1,000 square inches of brood and some have established standards as high as 1,400 square inches.

We are late in getting started, but the sooner we can have uniform recommendations, the sooner we will be on a basis of giving the fruit and seed growers a fair and square deal.



A Foundation for Research

by Chas. C. Hansen

Chas. C. Hansen is a Texas honey producer who is apt to become an Oklahoma pollinator. He presented this paper at the Denver meeting of the American Beekeeping Federation. This is not a dream of Charlie's; it is a new idea with practical possibilities.

ASURVEY of every phase of bee-keeping—the operator producing extracted or comb honey, the package-bee and queen shipper, the pollinator, honey packers, and bee supply manufacturers—shows that it is very evident that the time is now ripe for new ideas. With honey selling from 60 to 70 per cent of parity, the time is now! The bee-keeping industry is definitely at a crossroads.

We have consolation in the fact that most all improvements in management and distribution are brought about in times of stress.

I am sure that I have a lot of company in this statement: The commercial operator has the most sincere desire to continue in business because of his heavy investment and because of his love for beekeeping. We need not feel that ours is the only industry that has been faced with a transition. We only have to look at the dairy industry, which found itself in the very same place 30 years ago.

We well remember when the grocer and the butcher were obligated to buy all of the butter that was brought to them by the farmer. The grocer and the butcher were able to sell only a small percentage of the butter to the housewife, and the balance found itself on the way to the cities to be sold at low prices as non-edible fat. When the rugged individualism of the farmer became unpopular, creamery butter was accepted readily by the consuming public. In many respects, our honeys of today can be compared with our former country-made butter.

New ideas—research—are as essential to the honey industry as they have been to the dairy industry. It is possible that we may find as many products made from honey as the dairy people have made from milk.

The Celanese Corporation is reported to have spent four million dollars in one year on the research of synthetic materials. It is very likely that DuPonts and many other large corporations spend similar amounts.

We have all heard many, many times that the beekeeping industry needs new ideas—how to do this or accomplish that in our industry, but what has been done about it? I believe that comparatively little has been accomplished.

One of my interests is the breeding of milk goats. This past year, I inquired of Texas A. & M. College and the University of Arizona as to what information they had available on milk goats. I received the same answer from each university: We are not doing any research with milk goats because we have so few inquiries for such information.

I feel that the honey industry is getting such a small amount of research done because we are not making enough inquiries.

Have you ever heard of a new lubricant being developed by a university on their own initiative? The only way a new lubricant is created is either by the Petroleum Industry Research Laboratory or through research scholarships established in universities or special laboratories at the request of the petroleum in-

dustry and through funds supplied by them. It is very likely that every land-grant college has a catalogue listing the scholarships and the research funds available to those who can qualify.

Please ask yourself: By what logic do you expect to find new ideas explored except through your own initiative and with funds supplied by you? Industries establish these scholarships so that they will have available new methods, new products, and a source of young, well-trained workers in their particular field. The industry does not consider this as capital investment but as an expense which will pay good dividends in the immediate future.

It is only natural that we may expect to find a better demand for honey when we have developed more uses for the product of the hive. What industries might be interested in using honey in their products? A few would include the frozen-foods industry, bakery products, pharmaceuticals, and the confectionary industry. Many new uses could be found for honey if we were able to break it up into its component parts. How can these things be accomplished?

The plan I have to offer is similar to that of other industries. It is a Research Foundation, incorporated to operate in a state of our choosing, and with a lawyer drawing up the Articles of Incorporation. Thus would be established a foundation for research which could receive funds from donors in such a way that persons could deduct these amounts from their income taxes.



The author's outfit—strong colonies for honey production or pollination.

The Research Foundation would be controlled by a board of trustees chosen from the beekeeping industry. These trustees would make a careful survey of the needs of the industry and decide which should be given the most consideration. The facilities of the various land-grant colleges and universities should be studied to ascertain those most willing and able to establish research in cooperation with the industry and thus receive funds for research.

I know you are wondering where this money is to come from. Much money may be obtained for the Research Foundation as memorials established in the name of an individual or that of a friend or kinsfolk, so that the name may be remembered forever. Inheritance taxes are not deducted from such funds when properly applied toward scholarships and research through a foundation of this kind, or through a land-grant college. With the increases in income taxes, those who

are in a high income bracket would actually find themselves donating a very small percentage of every dollar placed in such a foundation.

We all know that much money is given to various kinds of homes, schools, hospitals, and the like. This money, however, benefits only a special group of people in most cases. Today there are many donors who prefer to create scientific research, believing that the national benefits are greater. There are corporations with financial means, such as those in meat and cereal industries, who might feel that their special interests would be improved through cooperative research. It may be possible to interest certain food processors, distributors, and even retail organizations in such an endeavor.

If this proposal is adopted by the beekeeping industry, it will become the duty of every member in every state in the Union to acquaint himself with those in his area who

would be likely donors. This system of raising funds is used by many religious and fraternal organizations. We beekeepers must feel highly obligated to support this Research Foundation since it is our interests that will benefit the most. If it were possible to collect from fifty to a hundred thousand dollars annually, we would have visible results in our industry within a relatively few years.

The results of such research must be the property of the beekeeping industry, free from all copyrights and patents. The research program is not to conflict with existing efforts or any new research, but should serve the purpose of preventing duplication of efforts and also the purpose of seeing that needed research is undertaken.

I would like to see less of this glorified rugged individualism and more cooperation among beekeepers. Why not unite for self-preservation and for progress?

Showers of Chemicals

"Showers of Chemicals to Spray U. S. Farms if Planners Have Say" was the headline for an article appearing recently in a Chicago paper. The article stated that farm officials want more insecticides to protect plants against bugs, more fertilizers to perk up the soil, and more weed killers to keep out intruding vegetation. All of this is asked for in order to enable farmers to step up their production in the present national emergency.

To help kill insects that gnaw cotton plants, officials figure farmers will need 65 million pounds of benzene hexachloride (25% more than last year), at least as much DDT as last year, and 35% more weed killer than farmers sprayed on their fields last year.

All this will be harmful to beneficial insects, including the honey bees. Much of the chemical use will be performed properly and with caution; much will not be done that way. It is a program, however, that is essential to modern agriculture and will be necessary to increase production of food and seed crops.

The beekeeping industry must meet this situation with cooperation. Cooperation with your local county officials and with your farmer friends is the only proper approach. Keep informed of the situation as it may develop in your own area; urge that methods and materials be used that will cause a minimum of harm to honey bees and other beneficial insects. Yours is a public relations job.

1951 Honey Support Program

The price support program for honey, designed to support the price of honey through packers, including cooperatives, was announced May 10, 1951, by the Commodity Credit Corporation. Contracting packers are urged to dispose of the honey they acquire in normal channels of trade, but eligible honeys for which they fail to find a market, can be delivered to the government.

Packers and cooperatives who wish to participate in the program must execute contracts with the Corporation not later than June 15. Any individual or cooperative is eligible to participate who has ownership of, or access to, facilities to purchase, receive, handle, process, pack and store honey. The contracts will be made through the Fruit and Vegetable Branch, Production and Marketing Administration, U.S.D.A., Washington 25, D. C. The three dates on which honey will be purchased are September 4 and December 3, 1951, and March 3, 1952.

Eligible honeys are those produced in the continental United States, of general or limited acceptability for table use, of U. S. Grade C or better, delivered to a packer in a clean, sound 60-pound container. Ineligible honeys include bitterweed, broomweed, carrot, chinquapin, gumweed, mescal, onion, prickly pear, prune, tarweed, and similar strong-flavored honeys or blends which the presi-

dent of CCC decides have little or no acceptability for table use.

For honeys having general national acceptability for table use, the producer is to receive 10.1 cents per pound delivered to the packer. For honeys having limited national acceptability for table use but considered to be of table grade in the areas in which they are produced, the support price is 9 cents per pound delivered to a packer. Such honeys include aster, blueweed, boneset, Brunnicchia, buckwheat (western wild buckwheat is considered of general acceptability), Eucalyptus, goldenrod, heartsease (smartweed), horsemint, mangrove, palmetto, partridge pea, Spanish needle, sunflower, tamarisk, thyme, ti-ti, yellow top, and similar strong-flavored honeys or blends.

The decision of the president of the Commodity Credit Corporation, or his designee, shall be final as to whether honey of a specific floral source, or even of a designated lot, has general or limited national acceptability, or whether such honey has little or no acceptability for table use. If in doubt as to the category in which honey of a specific floral source or lot falls, the packer can submit a small representative sample for determination to Mr. E. M. Graham, Fruit and Vegetable Branch, U. S. D. A., Washington 25, D. C.

New Edition— "Conduite Du Rucher"

The first edition of this book written by E. Bertrand of Switzerland appeared in 1883. Mr. Bertrand had been editor of the "Bulletin D'Apiculture de la Suisse Romande" since 1879 and started the famous magazine "Revue Internationale D'Apiculture" which was published until his death in 1917.

The book has been published in numerous editions both in French and Italian. The present new edition of 300 pages retains practically all the original work of Bertrand and is edited by Mr. L. Baudin who contributes a chapter on honey and honey plants. Dr. O. Morgenthaler, of the federal station at Berne, contributes the chapter on anatomy; Mr. A. Valet, that on queen rearing; and the chapter on diseases and enemies is written by M. Perret.

It is a fine book with a beautiful cover and is published by Payot at Lausanne. It sells for \$3.00 and may be obtained from the American Bee Journal. We would recommend this edition to anyone who can read French. The original material by Bertrand is presented in "calendar" style. Coordinating chapters by the collaborators contain material from which we outside the Romance countries might profit.

Work on concentration and volume of nectar in honey plants cited as being done at various experimental stations in Europe leaves the impression that much of the future of our industry including successful pollination may hinge on this type of information and its practical application. We have as yet done little in investigating and breeding strains of plants with high sugar concentration, and even less in studying the effect of soil on plant growth and bloom and nectar sweetness.

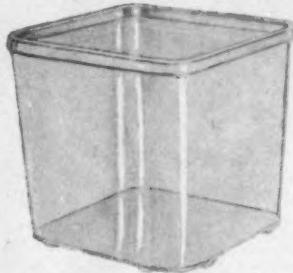
The writer well remembers the animated and close correspondence which was carried on between Charles and C. P. Dadant and Mr. E. Bertrand and his wife. Bertrand agreed with the suggestions of the Dadants and on many occasions defended their views in the European bee papers.



Pat Miville, center, owner and operator of the Sun-Fed Honey products in Sarasota, Florida, holds the largest shipment of bees ever made and the first colony ever to travel by air. Miss Pat Reel, left, National Airlines hostess, receives over 5,000 bees enroute from Sarasota to the annual Macy department store food show in New York City. Mrs. Miville is at right. (Photo courtesy Sarasota News Bureau)

Plenty of Bees in Britain

England and Wales have 76 thousand beekeepers with an average of about five colonies to the beekeeper according to one of the current issues of a British bee magazine.



PLASTIC CONTAINER

Made from crystal clear plastic with the word "Honey" engraved on cover. This plastic container will hold one pound of extracted or comb honey.

\$13.95 per 100-POSTPAID

Postage and Insurance Paid Anywhere in the United States

Terms—Cash With Order. No C.O.D.

Manufacturer of Bee Supplies "Since 1886." 45th Year in Oregon

Williams Brothers Mfg. Co.

5205 S. E. 82 Ave.

Portland 66, Oregon

A FAMOUS STRAIN OF LIGHT COLORED ITALIANS

Produced by

The Most Modern Bee Breeding Establishment on Earth.

NEW 1951 PRICES

Lot	Queens	2 Lbs.	3 Lbs.	4 Lbs.	5 Lbs.
1-5	\$1.35	\$3.55	\$4.50	\$5.45	\$6.40
5-15	1.30	3.50	4.45	5.40	6.30
15-25	1.20	3.40	4.35	5.25	6.20
25-100	1.15	3.30	4.25	5.20	6.10
100 up	1.05	3.20	4.15	5.05	6.00

Select Tested Queens — \$5.00, no discount

Above package prices include queen. Queenless packages, subtract \$1.05 from the price of package with queen.

SPECIAL LATE SEASON DISCOUNTS NOW IN EFFECT

TEN PER CENT ON PACKAGE BEES
TWENTY-FIVE PER CENT ON QUEEN BEES

THE DANIELS APIARIES **Picayune, Mississippi**

DADANT Starline Hybrids



Reg. U.S.
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Are Bred for
PERFORMANCE
and
RESISTANCE

by approved methods in
isolated yards.

LOTT BEE COMPANY
Route 2 Baton Rouge, La.

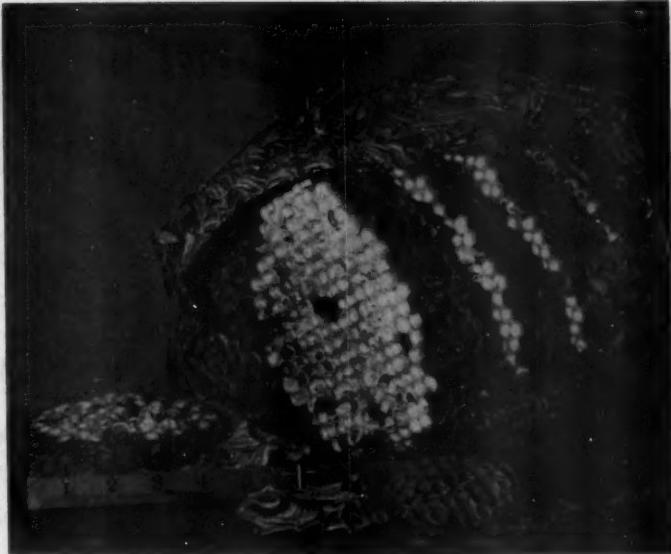
AMBER HONEY
and Wax Wanted
Wax Worked Into Foundation
LOWEST PRICES ON
BEE SUPPLIES
Write for Catalog, Save up to 28%
THE FRED W. MUTH CO.
229 Walnut St., Cincinnati 2, Ohio
— Since 1858 —

ITALIAN BEES	With
YELLOW ITALIAN QUEENS	
2-lb. with queen	\$2.25
2-lb. with queen	2.25
Queens	50c each, postpaid
Air Mail, 55c	
Money orders only.	
PLAUCHE BEE FARM	
Hamburg, Louisiana	

THRIFTY QUEENS
3-Banded Italians Only
Lots of 100, \$50.00
Smaller lots, 60c each
REMEMBER—THRIFTY BEES
are GUARANTEED to
PLEASE.
W.J. FOREHAND & SONS
FORT DEPOSIT, ALABAMA
Breeders Since 1892

PACKAGE BEES
QUEENS
JACKSON APIARIES
Funston, Georgia

ITALIAN
QUEENS FOR JUNE
60c each—any number
John S. Shackelford
Rio Oso, California



Nest of Giant Hornet . . .

This picture coming to us from P. Brightman of London, England, shows the nest of the giant hornet. The nest-building habits of the giant hornet are similar to those of our bald-faced hornet. Our hornet feeds very largely on houseflies and is a very useful insect. The English species is reported as destructive to honey bees as well. The nest shown in the picture was taken from an ancient barn at Epping Green, Essex, England.

The paper-making wasps depend principally on animal food and to a large extent destroy other species of insects. While the adults can sometimes be seen visiting flowers in search of nectar they do not store honey as do the bees.

Are You A Member?

In a compact office at 114 North Carroll Street in Madison, Wisconsin, where telephones ring and typewriters click; where writers turn out new ideas; where artists and photographers report for suggestions on sketches and pictures of tempting foods made with honey; where incoming mail is a flood of requests for information and literature about honey; where outgoing mail sends stacks of releases to magazines, newspapers, and radio stations and packs of recipe leaflets and books to producers, distributors, and consumers; and where in an atmosphere of business refinement members and representatives of other industries confer with the director about mutual problems and joint business ventures, the American Honey Institute has its headquarters.

Here this nonprofit trade organiza-

tion carries on its business of educating the public in the uses of honey to help keep high the demand for this delicious, healthful food.

Organized in 1928 for the purpose of helping all concerned with the success of the honey industry, the American Honey Institute has grown to where it takes its place among the leading trade associations of the day.

Are you as a beekeeper enjoying the benefits of membership in this organization? If not, write today to the above address for particulars on how to become a member and what membership will do for you.

Selling Helps

Regardless of where you sell your honey always furnish the customer with recipes and ways of using honey to suit his need. Everyone knows the use of honey as a spread but just



Heathermint . . .

Since heathermint comes from north China, we expected it to be hardy in the test gardens but it kills to the ground every winter. The roots survive and it grows again in spring. It is a shrub reaching a height of about four feet, and comes into bloom in late summer along with aster. The long spikes of lavender flowers attract bees in large numbers. It needs a sunny position and is said to do well on a variety of soils, except heavy clay. It is likely one of the best of shrubs for bee pasture. Planted along with lespedeza bicolor a long season of flow should result since the heathermint comes into bloom just when the shrubby lespedeza is fading. It is easily propagated from seed planted early in spring.

American Honey Institute
Madison 3, Wisconsin

as we want good butter, eggs, and milk in the kitchen for our baked goods so we want our good honey.

It might be well to appoint one member of your family to act as salesman. It is difficult to be producer, processor, and salesman at the same time. The American Honey Institute has selling helps that will help you hold your customers and make these customers bigger honey users each year.

Why not start this year to divide your honey so that it will sell during the twelve months of the year. Perhaps more honey will be sold during September, October, November, and December, so a lesser amount can be reserved for the following months.

Let us build a demand for honey in our own neighborhood or town and let's spread it around so that consumers can spread it thick!

BESSONET'S "GULF BREEZE" ITALIANS

Why use poor stock in expensive equipment when "GULF BREEZE" is bred for high production? Our long experience in breeding, producing and shipping queens assures you the best available regardless of the price you pay.

QUEENS—1-24 . . . 80c each 25 or more, 75c each via air mail.

BESSONET BEE COMPANY, Donaldsonville, Louisiana

CAUCASIANS UNLIMITED

Will be available throughout the summer. Order from this schedule and save time. Prices effective June 1st for the balance of the season.

1 to 11 at	\$1.00	each
12 to 49 at	.90	each
50 to 99 at	.80	each
100 or more	.75	each

THOS. S. DAVIS

Route 7, Box 3914

Sacramento, California



QUEENS

IMPROVED KELLEYS
ISLAND HYBRID STOCK

While these queens and their bees appear to be pure bred 3-banded Italians and are very gentle, they are exceptionally heavy layers and have other desired characteristics.

Each by Prepaid Air Mail from Paducah

75c

Lots of 25 and more, 65c each.

THE WALTER T. KELLEY CO. Box 210, Paducah, Ky.

LOOK—OUR 30TH YEAR!

To supply Merrill's quality bees and queens. Italians only
with 100% Satisfaction

Summer Prices

2-lb. Packages with Queens	82.00
3-lb. Packages with Queens	2.50
Improved D.R. Queens Untested	.50
Tested Queens	1.00

Empty equipment needs to be used, fill it with package bees.

MERRILL BEE COMPANY

State Line, Mississippi

PACKAGE BEES AND QUEENS FOR JUNE

If you have weak colonies, order our 2½-lb. packages with young queen to build them up.

Packages	1 to 24	Queens
1-24	82.00	75c
50 or more	82.75	70c

1 to 24 75c
25 to 50 70c
100 up 65c

We have only one breed—the very best light three-banded Italians.

TAYLOR APIARIES Box 249, Luverne, Alabama

1951 Shipping Season
Completed

THANK YOU
for your patronage



Reg. U.S.
Pat. Off.

LOOKING
FORWARD

To Serving You
in '52.
Book Early

FOSTER APIARIES
Box 239
COLUSA, CALIFORNIA

WESTERN

Beeswax Headquarters
Certified Beeswax Salvage Plant
Custom Rendering
Foundation Manufacturing

WOODROW MILLER & CO.
440 West J St. Colton, Calif.
Phone 1723



CAUCASIANS,
CARNIOLANS

Hardy, prolific, rapid
build-up, best of workers.
Caucasians have
the longest tongue of any race.
Build beautifully white combs.
GENTLEST OF ALL RACES OF BEES. Gentleness saves time, sweat,
patience and work.

PRICE: Untested queens \$1.00 each,
Air Mail.

ALBERT G. HANN
Glen Gardner, New Jersey

PALMETTO QUALITY QUEENS
Be a thrifty one in '51! Use Ellison's
Mott strain of three-banded Italians.
No disease and guaranteed to please.

QUEEN PRICES
1 to 10 75c each
11 to 20 70c each
More than 20 65c each

C. G. ELLISON & SONS
Belton, S. C.

NEISES

HONEY EXTRACTING
and
BOTTLING EQUIPMENT

Mfd. and For Sale by
THE NEISES CO.
Box 249, Marshfield, Wis.

ITALIAN BEES AND QUEENS

2-lbs. w.Qn.	\$2.65
3-lbs. w.Qn.	3.25
Queens	.75

GOLD LEAF APIARIES
Box 252 — Mabry, Georgia

You Asked Us --



How may first swarms be returned to the hive? What is the best method of swarm control?

James Neuhauser, New Jersey

There are several different methods for returning swarms to the hive. One is to place the swarm in a hive and set it on the old stand where the original colony was. If there were supers on the original hive, replace them on the swarm. Then place a queen excluder on the supers. Next destroy all queen cells, and set the old colony on top and leave there until the brood hatches. This queen already has the inclination to swarm, and very probably would swarm again. You could clip her wings, or kill her and purchase a new queen.

Another method is to cut all queen cells in the original hive and unite the swarm with the parent colony by the newspaper method, that is, place a sheet of newspaper with a few holes punched in it on top of the old colony and set the swarm in another hive body on top of it and close the hive. The bees will chew through the paper and unite. The queen should be killed and the colony given a new queen.

Swarming may be controlled by working bees continuously during swarming season-cutting out all queen cells, giving them plenty of room, good ventilation and some shade. This will keep down swarming.

What are the characteristics of star thistle, is it good bee pasture and does it produce good honey?

Constance Currie, Michigan

The purple star thistle (*Centaurea calcitrapa*) came from Europe where it is common to France and adjacent countries as well as Egypt and other parts of North Africa. It has become established in parts of California along with several other species which are closely related. Most of the honey that goes to

market as star thistle honey comes from some of the others which are more widely distributed. Some of them are bad weeds and undesirable. Honey from star thistle is regarded as of good quality, light in color with heavy body and equal to any white honey commonly available.

The centaureae are a large family of plants with many good honey plants among them. Some are desirable ornamentals which should be more commonly cultivated in gardens. The bachelor button and the mountain cornflower are in this class.

After cutting bulk comb honey from the frames I have always been bothered with the problem of cleaning the old wax from the split bottom bar and installing new foundation to start over again. What is the best way to clean out this old wax?

Lewis H. Boyer, Maryland

It is a messy chore, but about the best way to clean off the old wax is just to scrape it with a knife. After the comb has been scraped off, wash the frames in warm water to remove the honey before putting in new foundation. We do not know of any better method. If the frames are left on the bees for them to clean they often become discolored and dark. Cleaning the frames yourself as soon as the comb honey has been removed will keep them clean and sanitary.

Do bees get any honey from red clover?

Fred Pittman, Illinois

Bees do not get any honey from red clover. They do get pollen, however, and help to pollinate red clover. Occasionally in a very dry year the bees may get some nectar from shallow headed flowers. The bumblebee with its longer tongue can always get honey from red clover.

I am buying 50 2-pound packages of bees and queens for May 1 delivery. Will 2-pound booster packages added about June 1 be profitable?

L. S. Coburn, S. Dakota

We have found that buying extra bees to add to installed packages is not profitable. It might be in your circumstances. We try to get the 2-pound packages early and hive them on good combs containing pollen and honey left over from the previous year. After about three weeks or a month, we give each of these packages a big comb of bees and emerging brood from other colonies. This is better than buying bees alone and strengthens and increases the brood in the package colonies so that they are often able to make some honey during the summer. Our average crop from packages so installed and boosted is about two-thirds of that received from normal overwintered colonies. If you are hiving your packages on foundation they will come along slowly and I am sure that the addition of more bees would be of little value. Adding brood and bees will really help.

I have had considerable trouble with American foulbrood and would like to know how to prevent it. Every time I get some bees they come down with the disease.

C. T. Stough, Ohio

There may be other bees within flying distance of your colonies which have the disease. Or some old equipment which was diseased may have been left outside where your bees could get into it. If a colony has died out from disease, other bees will rob the honey left in the hive and thus spread the disease. All diseased equipment must be burned and buried.

Bees may be treated with sulfathiazole syrup as a preventive for AFB. This is not a cure for the disease, but will help prevent; it if given to healthy bees. A quick way to get it into the hive is to pour it right into the combs.

To pour the syrup into the combs, hold the frame over a flat pan at a 45° angle, top bar up, and dip the syrup with a cup or ladle and pour slowly over the frame. Shake the frame gently to rid the cells of air bubbles and shake the syrup down into the cells. A feeder may also be used for thin syrup but filling the combs is the quickest way to get it to the bees when they need feed.

June, 1951



A New and Better . . . STARLINE HYBRID

Reg. U.S. Pat. Off.
Produced under natural conditions by approved
methods. 1-24, \$1.20; 25-99, \$1.15; 100 up, \$1.00.
J. M. CUTTS & SONS



Chipley, Florida

• QUEENS—PACKAGE BEES FOR 1951 •

ESTABLISHED 1883

Maximum production is most easily assured with superior bees and queens. That's one way we try to help you make money. Superior bees and queens is our motto at all times. We like to have 50 per cent deposit and balance before shipping date. We believe this is fair to all—as we like to plan and ship the day you want shipment. Price scale:

Queens, any number	\$1.00	Tested Queens	\$1.00
2-lb. package and queen	\$1.00	any number
3-lb. package and queen	6.00	any number

THE VICTOR APIARIES

Uvalde, Texas

QUEENS

QUEENS

QUEENS

ITALIANS \$.50 each Airmail CAUCASIANS
E. J. Bordelon Apiaries Moreauville, La. Box 33

COMB HONEY



Produce comb honey in shallow frames. Produce twice as much honey—sell four pounds instead of one pound at a sale—comb honey sells easier and higher than extracted honey.

Let the frames go as part of the package and net \$15.00 and more per shallow super. We supply printed cartons that hold one regular shallow or half depth frame of honey. Hundreds of beekeepers are producing comb honey this new, easy way and are amazed at the quick sales and greater profits.

Write for our big 64-page catalogue listing this and much other equipment at money-saving prices.

THE WALTER T. KELLEY CO. Box 210, Paducah, Ky.

• BETTER BRED QUEENS—THREE-BANDED ITALIANS •

Watch those failing queens and poor colonies. Be sure and replace them with our Better Bred Stock and watch them pay off.

Queens 80c

CALVERT APIARIES

Calvert ——— Alabama

ARE YOU LOSING BEESWAX?

We render old combs, cappings, and slumgum for beekeepers. Our steam wax presses get every available ounce of wax out of this material. Send for terms.

DADANT & SONS, Inc.

Hamilton, Illinois

JUNE 1951 PRICES

BEES • QUEENS
THREE - BANDED ITALIAN

We guarantee full weight packages, safe arrival, young laying queens, prompt service and satisfaction. Health certificate furnished with each shipment.

Shipped by

Express Truck Parcel Post

• PRICES •

F.O.B. Varnville, S. C.

Queens	2-lb. w. q.	3-lb. w. q.	4-lb. w. q.	5-lb. w. q.
1-24 .65	\$2.90	\$3.75	\$4.60	\$5.45
25-99 .60	2.65	3.45	4.35	5.05
100-499 .50	2.40	3.15	3.90	4.65

Tested queen, 65c extra. Queenless package deduct price of queen.

TERMS: One-third upon receipt of order; balance 10 days before shipment.

CAROLINA HONEY COMPANY

P. O. Box 163, Varnville, S. C.

Clyde Blankenship, Mgr. G. L. Blankenship, Prop.

ALWAYS A GOOD MARKET

— BE WISE —
RAISE COMB HONEY



Use the LOTZ SECTION, no finer section made, to produce fast selling comb honey.



We also carry a complete line of beekeepers' supplies and glass and tin containers.



Write for our new price list—

AUGUST LOTZ COMPANY

Manufacturers and Jobbers

of

Bee Supplies

Boyd, Wisconsin

How - to - do - it

Upper Entrance Only . . .

It has been my contention for some years that an upper entrance is far more suitable for wintering than a lower entrance. It has been a satisfaction to begin to read in the Journal that an upper entrance has value. One mistake is still being made—the idea of retaining some lower entrance. The lower entrance provides a draft through the hive, and this is more harmful than useful. The bees, themselves, are quite capable of providing what motion is needed for proper ventilation in the hive.

Some years ago I devised a plan whereby I reverse the inner (flat side on top) to allow the bees easy access between combs in the hive. A tunnel is built on the flat side of the cover, leading from the bee escape hole to the edge. A rim is built around the cover so as to allow a few inches for insulation. The lower entrance is completely closed.

Results: I have seen bees walking in that tunnel at temperatures around zero. Hives so closed, with no other protection except one thickness of cheap black building paper wrapped around them, came through winters better than most other hives. Outside temperatures were as low as 35° below zero at times and stayed around zero for days. In the spring, such hives held more bees, were dry inside, and what few dead bees were on the bottom board were not soggy and moldy.

Through the years, I have wintered some hives with the upper entrance and some with the lower entrance in the same yard. It has been my consistent experience that the upper entrance alone ensures the safest, driest wintering and the strongest hive in the spring. It would be most interesting to have some of the leaders in apiculture experiment along this line.

Andrew A. Burkhardt, New York

How to Conquer Pests . . .

This report is from an amateur in a district where experts have tried and failed. The reason—mice, skunks, and yellow jackets.

For mice I use a regular ten-cent-size milk can, cut a hole large enough for a mouse, and put in a spoonful of poison grain. The old cat has quit hunting mice. She gets up at 9 a. m., goes out to the bee yard, picks out the mouse she wants that was killed by the grain, and then goes back to her sunny spot to rest. The poison used to kill the mice had no effect on the cat.

For skunks, I place a skunk scent some distance from the hive, set traps, and—there are the skunks.

But this may make the experts reach for their shot-guns. The yellow jackets, considered a real menace to bee-men since they often kill many weaker swarms, are put to work in my bee yard. I use an old tight wooden box, with a screen across the top with mesh large enough for the yellow jackets to pass through. I fill the box with my old dirty wax combs, full of pollen and cocoons, and carry the box a half mile up the canyon where the yellow jackets build their home. I leave the box there a couple of weeks and the yellow jackets clean out all the old pollen and dirt from the wax. When I boil and strain it, the wax is a lovely golden yellow instead of a dirty brown. No wax moth could stay healthy working on this wax with swarms of yellow jackets moving over

it, working twenty-four hours a day. I have found mice and other vermin lying dead around the box, stung to death by the yellow jackets. Yet I have opened the box and worked with it without even one yellow jacket offering to sting.

Richard E. Clayton, Utah



Good and Big . . .

A. G. Woodman, who sent us this picture, doesn't know who "Joe" is, except that he is a Pennsylvania beekeeper located in Florida. If Joe sees this we hope he will write to us. This is a good way to advertise; this sign is high enough so that it can be seen a long way. Neat and attractive, too. It is on a main highway—U. S. 301.

Check for Disease . . .

Amateur beekeepers to whom I have talked, check for American foulbrood during the spring months and feel that they are reasonably safe in assuming a colony is clean during the remainder of the season. This is a big mistake and I believe it should be stressed in all the bee magazines that disease may appear at any time during the months bees have flight.

A very great emphasis of the fact that inspection should be made at the time the supers of honey are to be taken off, should be stressed. To take off a crop of honey in an area where disease is known to exist is inviting trouble. Most of the old timers inspect each colony as they remove the crop; some inspect the entire yard and then remove the crop; others take off the surplus, set it off separately, and go down into the brood nest for a thorough inspection. In one way or another in an area where disease exists, the professional certainly inspects every colony, and seems to assume that the beginner should know this also. Let's tell them of the danger of taking off diseased combs and supers and mixing them up in the extractor so that they may not lose every colony, like one party who had to learn the hard way. Every state inspector should stress this when he makes inspections and a mention of it in the magazines from time to time would help.

E. F. Bea, Minnesota

Package Bees and Queens

Quality Three-Banded Italians

	2-lb.w.q.	3-lb.w.q.	4-lb.w.q.	Queens
1-24	\$3.00	\$4.50	\$4.80	85c
25-99	2.75	3.60	4.50	80c
100-up	2.50	3.30	4.20	75c



For packages with Dadant's Starline Hybrid queens add 25c per package.

For prices on larger quantity write or wire.



Reg. U.S.
Pat. Off.

★ ★ ★
Dadant's Starline Hybrids are
Genuine Disease Resistant Queens.

A combination is made by artificial
matings of the queen and drone moth-
ers to insure uniformity of performance
and to maintain the lines in a pure
state.

1-24—\$1.35; 25-99—\$1.35; 100 up—\$1.30

No extra charges for clipping, painting or
Air Mailing.

GARON BEE COMPANY

Donaldsonville, Louisiana, U. S. A.

QUEENS

★ ★ ★

YORK'S QUALITY BRED ITALIAN QUEENS

★ ★ ★

The Strain that Leading Honey
Producers Prefer

1-24	25-99	100 up
\$1.00 each	85c each	75c each

None better regardless of price

YORK BEE COMPANY

Jesup, Georgia, U. S. A.

(The Universal Apiaries)

Queens Queens Queens
 Spears' Quality Bred Italians
 Productive, gentle, easy to handle.
 Live delivery guaranteed on all shipments. Queens in any quantity but
 only the best of "Quality."
 Quality Bred Italian Queens, 55c each
 SPEARS' APIARIES, Hamburg, La.

BEE SUPPLIES

A. H. Rusch & Son Co.
 MANUFACTURERS-JOBBERS
 REEDSVILLE, WISCONSIN

3-BANDED ITALIAN

Queens	\$1.00
2-lb. pkg. with queen	2.00
3-lb. pkg. with queen	3.00

W. E. PLANT
 Natchez, Mississippi

ITALIAN BEES AND QUEENS

	1-20	21 up
3-lb. pkg. w.q.	\$3.35	\$3.45
4-lb. pkg. w.q.	3.90	4.00
Queens—large and laying	1.00	1.00

Lots of Booster Packages
 MITCHELL'S APIARIES
 Bunkie, Louisiana



FRAME-GRIP — SEND NOW!

This light modern tool is for easy handling and removal of frames from the bee hive. Orders promptly filled—Satisfaction guaranteed. \$3.00 plus 15¢ postage fee.

McCORD MFG. CO.
 Rt. 2, Box 866, San Jose, California

FREE...

A Sample Copy
 "Gleanings in Bee Culture"
 LOOK IT OVER
 YOU WILL LIKE IT
 A. L. ROOT CO., Medina, Ohio

ITALIAN BEES AND QUEENS

Prices are—	2-lb.	3-lb.	4-lb.
1-25	\$2.95	\$3.95	\$4.95
25-50	2.95	3.70	4.50
100 up	2.75	3.60	4.40

Queens, each 50c

FARRIS HOMAN

Telephone 4975 Shannon, Miss.

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CARLUS T. HARPER
 New Brockton, Alabama

This is the Month

by Frank E. McLaughlin

A LL beekeepers, along with myself, are now looking forward to a good honey crop. We are hoping this month will provide just the right weather conditions to enable the bees to fill our supers. My location looks very promising.

Established beekeepers are doing their heavy work now. My wife and I have been working hard down at "Cloverdale Gardens" since the weather has warmed up enough to permit outside work. In fact, some weekends we planted seed and trees although we waded in mud to do it. However, other work now has been set aside to give attention to the bees.

Swarming

This month the swarming instinct of the bees usually is working overtime. Remember beginners, we can expect no honey crop from the colonies that swarm.

A queen cell is like a peanut in shape and about one inch long. The average beginner does not know the difference between supersEDURE queen cells and swarm cells. Supersedure cells are usually drawn out towards the middle of the comb, and usually not more than two or three are drawn out at a time. Swarm cells are usually built on the bottom edge of the combs, and vary in number from three or four up to a dozen or more. In some instances bees will swarm on supersEDURE cells.

There are any number of methods used to control swarming. The surest method is to keep the swarm cells cut out. This means going through the hives once a week, or at least every ten days. Queen cells mature in from 14 to 16 days, and swarms will issue with the old queen before the new queen emerges.

Conditions in the hive often encourage swarming. If bees are set in the hot sun with no shade available; if no ventilation is provided in the hive; and if the brood nest becomes congested all encourage swarming. The brood nest is congested when there are no combs for the queen to lay in. The brood nest

can be crowded and the bees still have foundation, or the bees may put too much honey and pollen in the brood chamber, and crowd out the queen. Foundation must be drawn out into comb, before the queen can lay eggs in it.

Giving bees plenty of room by adding supers when needed also helps keep down the swarming urge. The bees should be inspected thoroughly and frequently all during the swarming season. This begins when the bees have built up strong in population and brood before the main honeyflow. Swarming often lasts through the honeyflow. In some parts of the country where there are two major honeyflows there may be two swarming seasons.

Hiving Swarms

There are different ways of hiving swarms, depending on where the swarm clusters. If it clusters on a low limb or shrub, the limb can be carefully cut and shaken over an open hive. The largest percentage of the bees will fall into the hive. Then if the queen is inside the hive, lay the limb at the front entrance and the remaining bees will crawl inside.

If the swarm settles on a high limb, it can be shaken into a box or basket and poured into the hive by shaking the basket over it. The old idea of beating tin pans to make a swarm settle is wrong. The bees will cluster where they please in spite of the noise. If a swarm clusters high in a tree where it would be difficult to remove, a rope can be thrown over the limb and the swarm shaken sharply. This will sometimes cause the bees to move and they may settle on a lower limb.

Supering

This is the time of year to start putting on supers. Many beginners want to know just when the first super should be put on. In my experience, when the brood chamber containing the queen is nearly filled with honey, pollen, and brood, it is time to put on the first super. If you are using the double brood

chamber, wait until both chambers are nearly full of honey, pollen, and brood before adding the first super. The honey in the brood chambers does not need to be capped over before adding a super. As the honey-flow progresses, more supers may be added.

Supers of drawn comb, preferably light comb, are better to use than supers containing frames of foundation as bees sometimes do not like to work in supers of foundation. However, beginners may not have any drawn combs so will have to use foundation. In this case, I exchange two frames of foundation with two frames of comb from the brood chamber, making sure that the brood is sealed, as if the frames contain eggs or larvae the bees will sometimes draw out queen cells. After the two frames of foundation are drawn out by the bees in the brood chamber, they may be removed and used in the super for storing honey. Switching frames this way entices the bees to go to work in the super of foundation.

Do not remove supers of honey for extracting until the honey is at least three-fourths capped over. It is best to leave the honey on until it is completely sealed. If taken off before it is thoroughly ripened, it will ferment.

Queen Excluders

The question of whether or not to use queen excluders is often a subject of debate among beekeepers. Some do not believe in the use of excluders, and wouldn't have them, but I like them. I have tried working my bees without excluders, and I didn't like the idea of not knowing whether the queen would be found in the bottom where she belonged or up in one of the supers. Some beekeepers say the queen will very seldom leave the brood chamber, especially if there is a super of honey above her. But sometimes she will. If she does, you will find patches of brood and pollen up through the honey supers which makes it difficult to remove honey for extracting. There is also a great chance of the queen being killed, when you don't know where to find her.

I will be happy to try to answer any bee problems, if my readers will write me in care of American Bee Journal.



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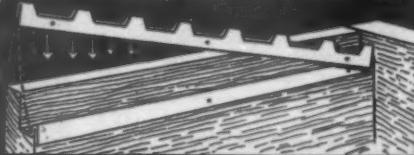
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Planned Pollination

An Agricultural Practice



A Honey Bee on Sweet Clover

Photo by Ben Kautson

Help in Selling Pollination . . .

During the past few years we have seen pollination pass from a theory to an accepted agricultural service. Now we are happy to announce the publication of a new bulletin with the above title. This one is concerned with the practice of pollination. Many experiments on actual use of bees for seed production of alfalfa, red clover, alsike, white Dutch, sweet and Ladino clover, crimson clover, the vetches, trefoil and other legumes are discussed. Field and greenhouse crops, fruit and nut crops, and vegetable seed production are covered from a practical viewpoint.

Planned pollination is an agricultural practice in which adequate insect pollination is ensured by providing honey-bee colonies. Practices vary according to the crop, but standards can and should be followed in providing bees for seed set. This bulletin will give you the yardstick to go by. But of even more value to you will be its use in selling pollination services to the seed grower. Send now for as many copies as you can use to give to the farmers whose crops your bees will pollinate.

This pollination booklet, written and compiled by Roy A. Grout, is an extensive revision of the pollination bulletin published last year. It may be obtained from Dadant & Sons, Inc., Hamilton, Ill. Price 10c each, \$6.00 per hundred, postpaid.

Shall We Use Queen Excluders?

by E. Braun

Dominion Experimental Farm
Brandon, Manitoba

QUEEN excluders, of any type, merely constitute another item of beekeeping equipment or may be termed a "tool" provided for the beekeepers' use. The proper or improper use of any piece of equipment depends upon the aptitude of the individual in applying the knowledge he has gained from practical experience. The value of the equipment can only be determined from the standpoint of whether it will save labor, perform a definite function, or provide other sufficient additional returns to warrant the outlay of the capital invested.

The most frequent criticisms leveled against the use of queen excluders include the following: an item of unnecessary expense; the zinc excluders damage the wings of the honey bees; they cause congestion of the brood nest and thus contribute to the swarming problem; when plugged with propolis and burr comb they reduce air circulation within the hive; they impede the progress of the bees in storing nectar in the supers and have been termed by some as "honey excluders" instead of queen excluders; and numerous other objections of a more minor nature.

In the 1920's single brood chambers with queen excluders were in vogue and considerable trouble was experienced from excessive swarming during the main honeyflow. This was accentuated when weather conditions or other factors prevented regular examinations within ten-day intervals. Comparative tests conducted over several seasons on single versus double brood chambers showed that swarming could be considerably reduced with the double brood chamber, and that the majority of Italian queens, with normal manipulations, did not require any additional brood-rearing space than that which it provided. All colonies and even different races of bees have been handled satisfactorily in double brood chambers, with the wire wood-bound type of

queen excluders, without much difficulty since the early 1930's.

Zinc excluders were compared with the all-wire woodbound type. The zinc excluders were found to be unsuitable because they twisted out of shape too easily; they became badly propolized or plugged with burr comb and, after having been in service several years, occasionally permitted young queens access into the top supers. Wing damage on worker bees was frequently observed.

The all-wire woodbound type, when abused by careless handling or allowed to remain plugged with burr comb and not subjected to an annual cleaning with a blow torch, inspection and repair, may actually reduce air circulation within a hive or permit queens to go into the supers through widened spaces between the wires. These factors can be readily eliminated by the beekeeper with a reasonable amount of care.

A five-year experiment designed to compare top versus lower entrances provided some additional information on unlimited brood nests. In the top-entrance group, the two brood chambers, were removed from the bottom board, prior to the honeyflow. Four supers, with dark brood combs and newspaper between each super, were placed on the bottom board, the two brood chambers placed on top, and the whole supplied with a specially constructed top entrance. In theory, the bees would deposit the honey above the brood nest and gradually force the queen down to the lower brood chambers in the fall. This experiment was designed to eliminate periodic examinations and supering, and to reduce swarming during the honeyflow. The unlimited brood-rearing space did not prevent encirclement of the brood nest with honey and pollen and the swarming problems were similar to those when a single brood chamber with queen excluder was used. Some colonies

persisted in distributing their brood in a narrow belt of two or three frames, from the top to the bottom of the hives. Check colonies with lower entrances and light super combs above the second brood chamber provided similar difficulties. Brood dispersal from the bottom to the top of the hive was not unusual in the check group. Top or bottom supering did not appear to have much effect upon the vagaries of the queen in her brood-laying pattern. Some strains of queens, however, maintained a solid, compact brood nest of sixteen to eighteen combs, with or without queen excluders.

Queen excluders when properly used do not reduce the honey crop. An average yield of 197 pounds of honey per colony over a ten-year period, in an experimental apiary, should be ample evidence to convince those who are skeptical. Data are available for 1936 when ten or more colonies individually produced above four hundred pounds of honey in one season when equipped with queen excluders. Unfortunately no colonies were operated without excluders that year to procure comparative data.

Queen excluders, in my opinion, based on twenty-eight years of experience in an experimental apiary, reduce examination and manipulation time per colony by permitting rapid removal of the supers above the brood chambers with only a cursory examination. The thorough examination of twenty combs in two brood chambers reduces the possibility of inadvertently missing queen cells. If swarm cells have been started, the queen may be readily located and the brood nest rearranged or the colony Demareed in a limited amount of time. In a heavy honeyflow, supering next to the brood chamber can be expedited when lack of time or bad weather prevents making a thorough examination.

(Please turn to next page)

Lespedeza Bicolor

"The bees are among the bob white's best friends." Such is the introductory sentence to an article by Karl E. Graetz, agronomist of the Soil Conservation Nursery, Gretna, Va., appearing in the May issue of "Soil Conservation" (U.S.D.A. publication). The article has to do with the lespezezas, particularly Lespedeza bicolor which is a type of plant like hazel brush which seeds plentifully, the seeds being particularly liked by quail.

A few years ago, Frank Pellett had bicolor in the honey plant test garden. It is still there. The North Carolina agricultural department wrote to ask him if bicolor was a nectar yielder and good for bees. His immediate reply was that the bees worked the plant avidly and secured honey. It was subsequently recommended in North Carolina for the margins of fields on contour banks, and to keep down erosion as well as provide feed for quail. The

dissemination of this plant has grown. At the Ardmore meeting, Philip Allan, Regional Conservationist, stated that in the area of Texas, Louisiana, Arkansas and Oklahoma more than 3 million bicolor plants were planted in 1950.

Graetz stresses in his article that earlier reports were that the lespezezas were self-fertile, but recent work and frequent crossings of various varieties as well as the frequency of honey bees and other insects on the bloom has changed the picture. Graetz's experiments credit 80 per cent of the good seed results to the presence of honey bees.

So within the limits of the territory where bicolor will thrive (Virginia through Kentucky) we may expect the combined efforts of the soil conservationists and hunters and farmers to hasten the time when we will have still another plant to add to our supply.

Queen Excluders . . .

(Continued from Page 259)

Queen excluders are indispensable in any queen-rearing program for the selection or replacement of proved stock, particularly when overwintering is practiced. Young queens can be reared and mated in a ten-frame super above extracting honey supers with a queen excluder in between, thus eliminating the use of specially constructed nuclei or mating hives. In late summer (early August) queens may be confined to single brood chambers, thus permitting the removal and extraction of all other honey combs. The cleaning of extracted combs by the bees above individual colonies or on deadman floorboards is facilitated by the use of queen excluders. Queen excluders under and over stacks of supers piled for storage frequently save them from damage by mice or other rodents.

In conclusion, therefore, queen excluders of the all-wire woodbound type should be standard equipment for every beekeeper. They assist in systematizing apiary management, reduce labor costs, increase the average yield of honey and facilitate numerous other operations in the apiary.

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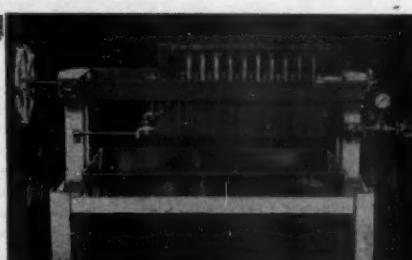
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All Around The Bee Yard

by G. H. Cale

I think it was about 1919 that I was on the program of the American Association for the Advancement of Science, in New York City, and there met Frank Pellett for the first time. His book, "Productive Beekeeping," was then a text used in many schools and the Massachusetts Agricultural College (now the University of Massachusetts), where I went to school, had made me quite familiar with it. I majored in Entomology and earned school funds as a deputy inspector in summer and laboratory and class assistant in winter under Dr. Gates.

To meet the author was a high point for me. To listen to him and visit with him was an unexpected privilege. But to find him serious about my joining the staff here in Hamilton was a breath-taking turn in my affairs. He well knew that a youngster, then in Government service with Dr. Phillips, would be quite thrilled at such a prospect. The real adventure did not begin at that moment but it did mature two years later, after I met and traveled several thousand miles with C. P. Dadant, then Senior Editor of the Journal.

In February 1921 my wife and I, with two young boys, stepped off the train in Keokuk, Iowa, in a new land so different from the eastern seaboard. For thirty years since that moment I have been very closely teamed with Frank Pellett. We worked together to develop and expand the Journal and to initiate and ripen the projects that become a part of the service the Journal tries to give the industry.

Frank was a man of great vision. His early interest in honey and pollen plants, which likely began when he was a practical honey producer at Atlantic, and dominated his interests during the rest of his life, carried him into a position of leadership in that field which will be difficult for anyone to exceed. His book, "American Honey Plants" is his greatest contribution and it has become a hand book for the beekeeper, teach-

er, inspector, and scientist the world over.

The information this book contains resulted from many years of travel and many carefully checked records and reports. It is so reliable that the beeman can accept its facts without question. To me it is as fine an example of painstaking achievement in published information as can be found in any branch of practical literature.

The beginning of the Honey Plant Test Gardens was an inevitable outcome of Frank's researches in honey and pollen plants. When what is here and known is covered the next step is to introduce new from other places. The Honey Plant Test Gardens grew beyond any of our expectations and aroused interest among all sorts of people the world over. It is to be hoped that it may be continued as a monument to the man who, first in the world, assumed a leadership in knowledge in a previously untraveled field.

Frank was always an arouser of great interests, and I can well remember when we first thought of the possibility of there being some strains of honeybees that might be resistant to bee disease, particularly to American foulbrood which was the greatest scourge that threatened the industry. I think the first thinking along this line started when Dr. Watson was perfecting instrumental insemination. He thought of it as one of the characters which might be built into the bee by correct genetical approach. Dr. Watson came here to talk about it and all of us felt it a worth while problem which should be started at once.

No one of us had as much enthusiasm for it as Frank. To him that was the quick path to successful control of the biggest handicap we faced in keeping bees. He prodded and scolded and pushed until we were all committed to the first steps. But it was over fifteen years before we were able to tackle the job with real understanding. We had found that there were resistant bees but had done little more.

Then Frank took over and placed a fair sized apiary at Atlantic where he enlisted the aid of Dr. Park at Ames. They soon found that not only was resistance a rather common thing in bees but it was heritable and could be intensified by breeding.

Then the lid was off. Jim Hambleton made the study of resistance one of the big jobs in his field stations and at Beltsville. Soon there was stock available for trial. Geneticists became excited by this entrancing field for the application of scientific breeding.

Today resistant bees are readily available. Dadant & Sons, publishers of the Journal, have a research project in the careful genetical breeding of bees not only for resistance to disease but for honey production and gentle stock that is finding more users every year.

So can the spark of enthusiasm from one man flow into the veins of many.

Perhaps those not connected with beekeeping will best remember Frank for his absorbing books about nature; for his revealing "Backdoor Neighbors"; and his "Flowers of the Wild" and "Birds of the Wild." But to us in beekeeping his "Productive Beekeeping"; "Practical Queen Rearing"; "A Living from Bees"; "Romance of the Hive" and "History of American Beekeeping" will back up admirably his greatest work of all "American Honey Plants."

For myself I can only read his creed and wonder why I did not become familiar with it sooner. It is a wonderful one to live by. Somehow those closest to us do not receive the appreciation they should while they are with us. It is only after they go that we suddenly realize what a part of us they have been. And I then, being no exception to the rule, will learn more from Frank now he is no longer with me than I did when he was by my side. I know he is not gone for ever but simply gone to that eternal exploration to which his creed committed him.

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AMERICAN BEE JOURNAL
 HAMILTON, ILLINOIS

The Postscript

by Frank C. Pellett

High point paragraphs from various past "Postscript" pages. Brought together this way, they further emphasize the remarkable and comforting philosophy of one of America's outstanding agricultural leaders.

Looking back over the sixty years of beekeeping which my memory covers, I find several persons who have exercised a great influence in my life, one being my grandfather, B. Franklin Chapman, for whom I was named. Days spent with him among the bees in my childhood stand out in memory as a time of complete happiness. The apiary in the orchard was a place of enchantment and to this day no more restful place can be found than beside a beehive under an apple tree on a sunny day in June.

In all the experiences of the writer's brief lifetime there is nothing more wonderful than the northern spring. Within a few days the change from the bare and bleak conditions of winter brings the leafing of the trees, the return of the song birds and the opening of the flowers. One seems to be in a new and different world and is surrounded by such a variety of sights and sounds as to offer a strange exhilaration and a stimulation which brings a renewed interest of life. No wonder the beekeeper is usually a happy sort of individual when his daily work places him in the midst of such surroundings.

"More rain, more grass," was the favorite saying of the writer's father when someone complained about the weather . . . To those of us who live close to the soil, the sound of rain upon the roof is a pleasant sound, it comes as music to our ears. In seasons of excessive rainfall there is always an abundance of something; there is feed for the cattle and vegetables in the garden. In seasons of drought there is little of anything; the pastures are bare, the crops are sparse and we suffer from apprehension through long looking in vain for the rains which do not come. Rain anticipates the resurrection of the flowers and the grass which have lain dormant throughout the long winter and, instead of indicating

gloom and discomfort, is the forerunner of "life, beauty and joy."

One hears so much of gloom lately that it is likely the fact is overlooked that the really worth-while things of life are still within reach. The sun still shines, the flowers bloom, the birds sing and the earth brings forth her fruits in season. The happiest folks are the ones who are busy and one is most likely to find contentment in some rural occupation. After meeting many people over a wide area, the writer has come to feel that beekeepers as a class are among the most favored folks because the nature of their work is such as to encourage a contented state of mind. There is something about the busy hum of the bees which soothes tired nerves and the activity of the insects stimulates the beekeeper in a way which causes him to overlook the unpleasant things with which he is surrounded.

A quiet June Sunday on the farm front porch offers a very satisfactory diversion for me. I can watch squirrels eating elm seeds in the top of one tree, blue jays building their nest in another and bees getting pollen from walnut catkins in a third. Birds of more than a dozen kinds flitting about, singing from the treetops and busy about their family affairs attract one's attention first in one direction and then in another. All the time the air is vibrant with the homing call of the bees coming in heavily laden with nectar gathered from raspberry.

Certain it is that the men who follow the gentle art of honey production are a peaceful class and have only good wishes for their fellows throughout the world. There are few who prosper without benefit to others. As the wealth of the beekeeper increases so is that of his neighbor from the labor of his insects. The honeybee gives more than she takes,

and when she gathers a crop of honey she ensures greater fruitfulness of the flowers which she visits . . . Here is the exemplification of the motto, "He profits most who serves best." May we adopt this plan for all our human relations. If it could be made the basis of all human contacts what an improvement we might find within a short time.

We still believe in the future of the beekeeping industry. We still advise those who like the work to stick to the bees, and we confidently look forward to better days ahead. Man-made institutions are uncertain, but the sun still shines, the flowers still bloom and nature still gives forth abundantly. Let us try to forget all the bitterness, all the sorrow and all the suffering that may lie behind us. Let us turn from disappointment and confidently press forward in search of the good things that life still holds for us. Let us thank kind Providence that we are permitted to spend our days among the bees.

The finest things that have come to us are because of the friendships we have formed along the way. These associations are priceless and many of them have endured through the years. Beekeepers are a friendly people. If a man may be called rich in proportion to the number of his friends, those who follow honey production should be classed as a prosperous group. Let us seek more and better friends . . . Let us lose no opportunity to speak a word of cheer, to lend a helping hand or do an act of kindness. Let us remember that the only hope for the race lies in practice of the golden rule and not until we do find peace and goodwill among men is there any chance of a worth-while civilization . . . Our future is in our own hands. As a nation and as an industry we will achieve what we will to achieve and our rewards will be sufficient to repay what we have earned.

GOOD QUEENS

and Package Bees

My Own Strain of Italians

	1-24	25-99	100 up
Queens	\$1.00	.90	.75
2-lb. with queen	3.00	2.75	
3-lb. with queen	3.75	3.50	



Starline Hybrids

Reg. U.S. Pat. Off.	1-24	25-99	100 up
Queens	\$1.25	1.15	1.00
2-lb. with queen	3.25	3.00	
3-lb. with queen	4.00	3.75	

All queens reared in strong three-frame nuclei (standard frames). All are well developed, large, fine queens.

Queens postpaid, airmail if it saves time. Packages by express or truck. Let me figure with you on loading out your truck with packages that will please you.

Try them and be convinced that they will do for you what they have for many others.

S. J. Head Crossett, Arkansas



ITALIAN QUEENS — PACKAGE BEES

	1 to 49	50 to 99	100 and up
2 lb. with queen	\$3.50	\$3.25	\$3.00
3 lb. with queen	4.50	4.25	4.00
4 lb. with queen	5.25	5.00	4.75
5 lb. with queen	6.00	5.75	5.50
Italian queens	1.10	1.15	1.00

Packages are shipped with full liberal over-weight and live arrival guaranteed. Our dealings with you must be 100% satisfactory. Replacement or refund on any shipment when bad order receipt is received by us. Our queens are second to none in performance. Queens clipped on request and sent airmail postpaid.

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It is nearly time to start shipping

PACKAGE BEES

Have you given us your order?

We have not waited for your order but have made plans far in advance to ship your bees. Our cages, cans and other necessary supplies are stored and ready to use on a moment's notice.

Our colonies are in the best condition in years for production of Package Bees. Healthy well fed colonies mean better bees for you.

We will feature "Three Way Hybrids" (Kelley's Island Developed) at no extra cost to you. State which queens you want in your packages, otherwise we will ship our regular stock.

Prices as follows:

Queens	2 lb. w. q.	3 lb. w. q.
1 to 25	\$1.10	\$3.25
26 up	1.00	3.00

Queenless package deduct price of queen.

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70c each; 50 up 65c each

2-lb. bees, \$2.50 3-lb., \$3.50
4-lb., \$4.25 5-lb., \$4.75

For Queenless Packages Deduct
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Add 75c per Pkg. if wanted via parcel
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for 1951
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Prices June until November:
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Queens clipped and marked free.



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High Production

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1.15
1.00

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3.25
3.00

3-lb.
4.25
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Lower Prices — For our own reliable 3-Banded Italian Queens and Packages with Queens, deduct 25c each from the above price schedule.

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In Lots	Queens	2-lb.	3-lb.	4-lb.	5-lb.
Of:	Each	w. q.	w. q.	w. q.	w. q.
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100-Up	.60	2.50	3.25	4.00	4.75

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Market News

by M. G. Dadant

Colony Losses

On the whole, colony losses we believe will average more for the winter than in recent winters. This is due partly to the fact that the winter was so prolonged and severe in many sections, particularly since the fall was moderate and allowed the bees to consume much of the stores which otherwise would have been carried over into the winter season. However, except in the central western areas, we believe that the losses have not been excessive, and in some sections particularly the intermountain and southern areas, as well as in the Canadian provinces, losses have been very moderate, indeed.

Condition of Bees

However, to the winter losses must be added undoubtedly considerable loss during the spring season which up until May 1 had been extremely backward, preventing the bees from gathering much fresh nectar or pollen. This also meant that the meager stores in many instances did not carry through, and unless beekeepers were active and alert, colonies will have been lost by apparent "dwindling," but generally by starvation. On the whole we believe, therefore, that bees are short in numbers owing to winter losses and the slowness in making up such losses with package bees, although in the case of the Canadian provinces, there has been more activity this year than in the past on account of the nice clean-up of the honey crop.

When it comes to the actual condition of the colonies which are alive, they have built up very rapidly, especially during the last two weeks of May when warm weather brought bloom and growth out, so that bees coming through winter quarters are in many cases equal to any other year.

Plant Conditions

As to plant conditions, we believe the country over, they will run far better than in 1950 as of June 1. There are, of course, some exceptions. For instance, in southern Colorado, and extending into New Mexico and western Texas, the season has been

unusually dry. This also applies to the western Dakotas and to the dry land areas of California where the rainfall up to May 20 had not been as heavy as last year which in itself was a short year for rain. In the irrigated sections, of course, conditions are all right as far as California is concerned. In the intermountain area, there will perhaps later be evidence of a shortage of water in some sections.

On the Atlantic seaboard and extending through the South, honey plant conditions have been exceptionally good after the late frosts and the very late start. While earlier it appeared that crimson clover in the north sections of the South, as well as vetch and Hubam farther west were to be short, the nice rainfall later on has brought these plants out, and although the acreage may not be as large as a year ago, the condition of plants is very excellent as attested to by the already large vetch flow.

In the little white Dutch clover areas, plants are in better condition than they were in 1951 and need only the right weather and sufficient bees to warrant something like one of the old-time crops. While reports were that much sweet clover farther west is being plowed up for corn, there is still plenty of sweet clover available and also much being left for seed, so that the prospects should at least be as good as a year ago. We seem to have reached the peak and passed it as far as insect damage to the sweet clover is concerned.

Honey Crops and Crop Prospects

The orange crop, of course, was a failure in the Rio Grande Valley owing to the heavy freeze which not only killed the buds, but many of the citrus trees. In Florida, although the crop may not be as large as a year ago, still it is apparent that a crop of some 80 to 100 pounds per colony of orange honey will be secured. In California, inclement weather has hindered much of the crop, and as a

consequence, it is probably not as good as last year.

At last reports, everything seemed to be yielding in the southern areas, and queen breeders were having difficulty keeping up with the bees, whereas a month ago they had difficulty in keeping up with orders owing to the backward condition of the bees and difficulty in producing queens.

In Texas and extending into Arkansas, and even into Tennessee and northern Oklahoma, the vetch flow had started by May 15 and promised to be an extremely heavy one. Hubam clover which earlier looked light in amount has come out wonderfully and the prospects for Hubam now look as good as last year.

All that is needed is the right kind of weather in the Atlantic areas and farther south to assure flows there, and the same might be said of all the clover areas extending to the Pacific coast.

All in all, the prospects are that there will not be as many bees as a year ago, many of them will not be at full strength on account of dividing or earlier starvation, but with the proper care and proper weather, it looks like possibilities for an even better crop than a year ago.

In the Canadian provinces, conditions are quite satisfactory throughout, with perhaps a few more package bees being bought than a year ago and conditions approaching normal.

Honey on Hand

Honey has been pretty well disposed of. Where it is held, it is either in the hands of packers to assure them of sufficient to carry until the new crop, or else carried as a sort of "safety valve" on the part of a few of the larger producers. Very little of the new crop has as yet been sold, but most of the old crop has been disposed of, although packers seem to be able to get fresh supplies if they need them badly enough and the price has not advanced too greatly. White honey of late has been selling at about 10½ to 11 cents f.o.b. shipping point, with amber honey 1 cent to 1½ cents less.

Honey Wanted—Cars and less than car. Top Prices.
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YES, ALL COMPARISONS prove that Green's profit producing queens are the best to be had. They will please you from the brood nest to the harvesting of a great crop of honey. Backed by years of breeding better queens. Price, 75¢ each. D. P. Green, Deland, Fla., Rt. 2 Phone 512M.

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THREE BANDED Italian bees and queens—Best of quality and extra good workers. 2-lb. with queen, \$4.00; 3-lb. with queen, \$5.00 each. Select untested queens, \$1.25 each. \$1.20 to 50, \$1.10; 50 up, \$1.00 each. A trial order will convince you. Phone 4703, Alamance Bee Co., Geo. E. Curtis, Mgr., Graham, N. C.

GOLDEN ITALIAN BEES AND QUEENS—Real gentle and good workers. 2-lb. with queen, \$4.00; 3-lb. with queen, \$5.00. Selected queens, 1 to 24, \$1.20; 25 to 50, \$1.10; 50 up, \$1.00. Health certificate with every order. Carolina Bee Farm, Graham, N. C.

SORRY but sold out on Carniolans until after May 1. Carniolans and Italians—untested, \$1.25 each; tested, \$2.50 each. Breeders, the very best, \$5.00 each. Get price on nuclei. Good price on truck loads. Wm. Atchley, 500 E. 9 Street, Upland, Calif.

GRAY CAUCASIAN QUEENS—\$1.00 each. Epping's Apiaries, "Idlewide," Covington, Virginia.

OUR QUEENS are Italians of the Geo. W. Moore strain are line bred and purely mated. For the remainder of the summer our price will be 75¢ each, in any numbers. Hanson Hall Bee Co., Livingston, Ala.

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FOR SALE—200 colonies of bees, equipment 200 more. Lots shop equipment. Also property and honey house if wanted. Reason, health. Elvin Baughman, Dow City, Iowa.

FOR SALE—500 fair to poor Hoffman supers with 9 good combs each. Elvin Baughman, Dow City, Iowa.

BEES FOR LEASE AND SALE—Montana, Wyoming, Idaho, Nebraska. Contact Bradshaw & Sons, Wendell, Idaho.

FOR SALE—Reversible bottom boards, 10 ft. \$10.00; 50 KD, \$47.50; 100 KD, \$90.00; 150 KD, \$127.50. These bottom boards are made of high grade cypress, cut from large trees. Sample, nailed up, \$1.25. Fred L. Poole, Rt. 2, Elizabethtown, N. C.

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ADVERTISING—Classified advertising—12 cents for each word, letter, figure or initial, including the name and address. Minimum ad, ten words.

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Advertisers offering equipment or bees on comb must guarantee them free from disease or certificate of inspection from authorized inspector. The conditions should be stated to insure that buyer is fully informed.

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NEW CROP GEORGIA cut comb honey in 20 oz., 2½ and 5 pound jars. Ready about June first. Wholesale here or delivered, 3000 to 4000 cases. George Bray, Nahntua, Ga.

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NEWSREEL

Mountain Mint . . .

E. J. Djao and E. Schwarting summarize their results of chemical investigation of volatile oil of mountain mint in the Journal of the American Pharmaceutical Association for February 1951.

Reduction experiments indicate the leaves had a volatile oil content of 2.15 per cent, the plant 1.13 per cent. This oil was 78 per cent pulegone 10 per cent menthone and there were small amounts of limonene present. Menthol was not present basically but by catalytic hydrogenation the menthol yield of the whole oil was 57 per cent. No determinations are indicated as to the commercial possibilities of the plant from the oil point of view.

Fruit Pollination . . .

"Some Pollination Suggestions" is the title of an 8-page flyer written by W. L. Coggshall, Cornell Extension Apriarist. The leaflet outlines the need for bees in fruit pollination (especially apples) and gives some detail as to proper procedure and working conditions. It also advises written agreements between beekeeper and fruit grower where bees are rented for the pollination period. Copies may be obtained by addressing Mr. Coggshall at Cornell University, Ithaca, N. Y.

The Penguin Handbook on Bees

"Beekeeping" is the title of the latest of the British "Penguin" series of popular nature books. It is written by Kenneth K. Clark who is an advocate of the Modified Dadant hive, following the lead of Buckfast Abbey and R. O. B. Manley in England. The book is divided into three parts: natural history and behavior; beekeeping management; and honey, beeswax, disease and other phases of the industry.

The volume is paperbound, 200 pages, and is available at \$1.00 from Penguin Books, Inc., 3300 Mill Road, Baltimore, Ohio.

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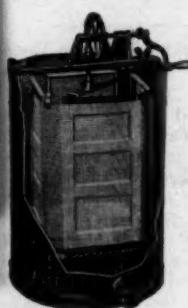
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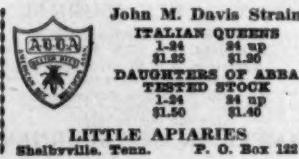
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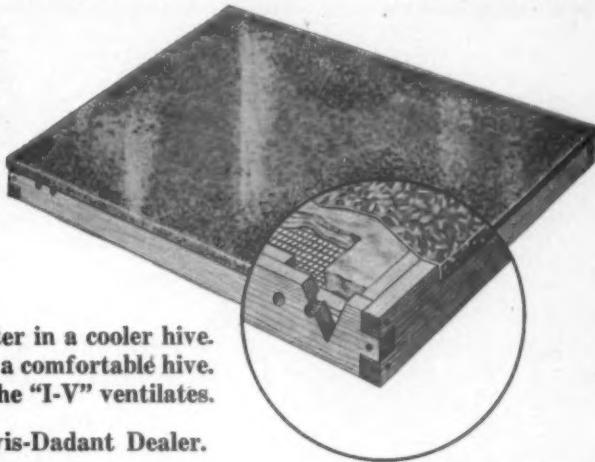
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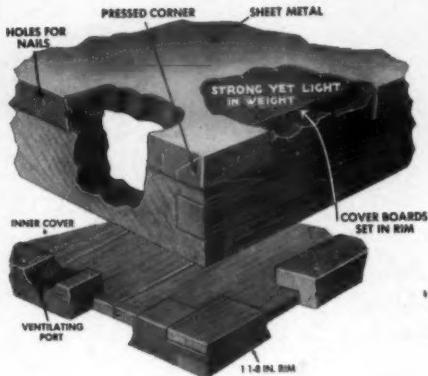
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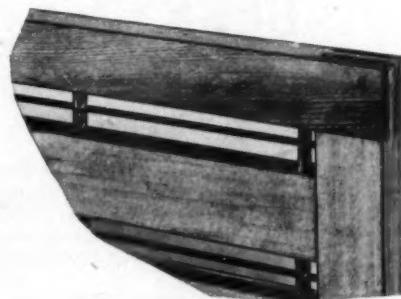
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